

AGRICULTURAL HISTORY

April 1942

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Published Quarterly
by

THE AGRICULTURAL HISTORY SOCIETY

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Published Quarterly by the Agricultural History Society

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Agricultural History is designed as a medium for the publication of research and documents pertaining to the history of agriculture in all its phases and as a clearing house for information of interest and value to workers in the field. Materials on the history of agriculture in all countries are included, and also materials on institutions, organizations, and sciences which have been factors in agricultural development. The Agricultural History Society assumes no responsibility for statements, whether of fact or of opinion, made by contributors.

Agricultural History is sent to members of the Agricultural History Society. Student membership, \$1.50 for bona fide students 18-25 years old; annual, \$3.00; contributing, \$10.00; life, for a sum in dollars equal to 100 less age of applicant at last birthday. A list of the articles in earlier numbers of *Agricultural History* will be supplied by the editor. Single numbers and back files may be obtained from the secretary.

Correspondence concerning contributions and books for review may be sent to Everett E. Edwards, Room 3901, South Building, 13th Street and Independence Avenue, S.W., Washington, D. C.; correspondence concerning membership dues and business matters, to Arthur G. Peterson, at the same address.

Entered as second-class matter, October 12, 1928, at the post office at Baltimore, Maryland, under the Act of March 3, 1879.

JEFFERSON AS AN AGRICULTURIST

AUGUST C. MILLER, JR.

The versatility of Thomas Jefferson is amazing. His interests were not limited to political leadership and statesmanship. It is not only as the father of American democracy that Jefferson claims distinction; he was also a scientific farmer and an agriculturist in the most comprehensive sense.¹ One writer has gone so far as to say that if "Mr. Jefferson had done nothing else save to aid man's knowledge of agriculture, he would have been a benefactor."² Some three hundred and twenty-five letters of Jefferson's voluminous correspondence deal with agricultural matters.³ Along with his Farm Book and Garden Book they give ample evidence of his predilection for farming. Examination of that phase of Jefferson's life which he considered most pleasing, namely, his farming interests,⁴ and summarization of his major contributions and efforts in fostering American agriculture are, therefore, amply justified.

Jefferson was born in a farmhouse at Shadwell on the frontier of colonial Virginia, and his interest in agriculture began very early in life. All his early influences were of the farm, and this agricultural background influenced him throughout his life. Even after he had been president he gave his occupation as farmer.⁵ Agrarianism was the most significant force in his entire philosophy.

¹ Champ Clark wrote: "Agriculture was his [Jefferson's] hobby; he did more for its promotion than any other statesman that ever lived, and deserves to be the perpetual Emeritus President of the Patrons of Husbandry."—Andrew A. Lipscomb and Albert Ellery Bergh, eds., *The Writings of Thomas Jefferson*, 11:iii (Washington, 1903-04, 20 v.). Hereafter this edition is cited as Lipscomb and Bergh.

² Thomas Donaldson, *The House in which Thomas Jefferson wrote the Declaration of Independence*, 41 (Philadelphia, 1898). When in later life Jefferson drew up a list of the services he believed he had rendered for the public good, he enumerated, along with the disestablishment of the State church, the abolition of entails, the prohibition of slave importations, and the drafting of the Declaration of Independence—the introduction of olive plants and heavy upland rice into South Carolina and Georgia, declaring that "The greatest service which can be rendered any country is, to add an useful plant to its culture. . . ."—Lipscomb and Bergh, 1:256-258.

³ Jefferson to Charles W. Peale, 1811, on his keen delight on being able to take up farming once more after retiring from the presidency. "Here, as you know, we are all farmers, but not in a pleasing style. We have so little labor in proportion to our land that, although perhaps we make more profit from the same labor, we cannot give to our grounds that style of beauty which satisfies the eye of the amateur. . . . I have often thought that if heaven had given me choice of my position and calling, it should have been on a rich spot of earth, well watered, and near a good market for the productions of the garden."—Lipscomb and Bergh, 13:79. See also Jefferson to William B. Giles, 1795, *ibid.*, 9:305.

⁴ The brochure issued by the U. S. Department of Agriculture on the occasion of the seventy-fifth anniversary, *Washington, Jefferson, Lincoln, and Agriculture* (Washington, 1937), contains a fine selection of Jefferson's letters on agriculture with excellent introductory notes by Everett E. Edwards.

⁵ Dumas Malone, "Thomas Jefferson," in *Dictionary of American Biography*, 10:17-19

As a farmer, Jefferson was anxious to preserve a pattern of civilization which was essentially agricultural. He loved his backwoods neighbors and was determined to preserve and protect these people who were deep-rooted in an agrarian economy. It was only natural that he should want to extend the self-supporting economic feature of his Monticello plantation to the whole country.⁶ His vision of America was that of a large country in which every citizen would reside on his own farm and live off the products of his own land.

Jefferson's love of agriculture led him to work out a philosophy of political economy similar to that expressed by the French physiocrats,⁷ namely, that the only sound economy was an agrarian economy. He had a profound distrust of an urban economy and an urban civilization.⁸ Country people were preferable to city dwellers, Jefferson believed, because "Cultivators of the earth are the most valuable citizens. They are the most vigorous, the most independent, the most virtuous, and they are tied to their country, and wedded to its liberty and interests, by the most lasting bonds."⁹ In his *Notes on Virginia* he emphasized that "Those who labor in the earth are the chosen people of God, if ever He had a chosen people, whose breasts He has made His peculiar deposit for substantial and genuine virtue."¹⁰

Fearing that industrialism was the disease which would destroy democracy, Jefferson was determined to have the United States remain an agricultural society, growing its own foodstuffs but not producing its own manufactured products. He wrote:

While we have land to labor then, let us never wish to see our citizens occupied at a workbench, or twirling a distaff. Carpenters, masons, smiths, are wanting in husbandry; but,

(New York, 1933). "When I first entered on the stage of public life . . . I came to a resolution never to engage while in public office in any kind of enterprise for the improvement of my fortune, nor to wear any other character than that of a farmer."—Jefferson to an unknown, 1793, Lipscomb and Bergh, 9:44.

⁶ See F.A.F. de la Rochefoucauld-Liancourt, *Travels Through the United States of North America, the Country of the Iroquois, and Upper Canada, in the Years 1795, 1796, and 1797*, 2:69-84 (London, 1799).

⁷ See Dumas Malone, ed., *Correspondence Between Thomas Jefferson and Pierre Samuel Du Pont de Nemours, 1798-1817* (Boston, 1930). Also Gilbert Chinard, *Thomas Jefferson, the Apostle of Americanism*, 142, 328, 493-495, 498 (Boston, 1929), and *The Correspondence of Jefferson and Du Pont de Nemours*, xlv-lx (Baltimore, 1931). Both are excellent accounts and show the extent of Jefferson's agreement with the physiocrats.

⁸ Jefferson to De Warville, 1786, in Lipscomb and Bergh, 5:402.—"The political economists of Europe have established it as a principle, that every State should endeavor to manufacture for itself; and this principle, like many others, we transfer to America, without calculating the difference of circumstance which should often produce a difference of result. In Europe the lands are either cultivated, or locked up against the cultivator. Manufacture must therefore be resorted to of necessity not of choice, to support the surplus of their people. But we have an immensity of land courting the industry of the husbandman. Is it best then that all our citizens should be employed in its improvement, or that one half should be called off from that to exercise manufactures and handicraft arts for the other?"—Query 19 of Jefferson's "Notes on Virginia" in Lipscomb and Bergh, 2:228-229.

⁹ Jefferson to John Jay, 1785, in Lipscomb and Bergh, 5:93.

¹⁰ Lipscomb and Bergh, 2:229.

for the general operations of manufacture, let our workshops remain in Europe. It is better to carry provisions and materials to workmen there, than bring them to the provisions and materials, and with them their manners and principles. The loss by the transportation of commodities across the Atlantic will be made up in happiness and permanence of government. The mobs of great cities add just so much to the support of pure government, as sores do to the strength of the human body. It is the manners and spirit of a people which preserve a republic in vigor. A degeneracy in these is a canker which soon eats to the heart of its laws and constitution.¹¹

A few years before the War of 1812, Jefferson modified his views on industrialism. The devastating effect of the Napoleonic Wars on American shipping convinced him of the expediency of domestic manufacture. Writing to John Jay in 1809, he said:

An equilibrium of agriculture, manufactures, and commerce, is certainly become essential to our independence. Manufactures, sufficient for our own consumption of what we raise the raw materials, (and no more). Commerce sufficient to carry the surplus produce of agriculture, beyond our own consumption, to a market for exchanging it for articles we cannot raise (and no more). These are the true limits of manufactures and commerce. To go beyond them is to increase our dependence on foreign nations, and our liability to war.¹²

Jefferson had become convinced "that manufactures are now as necessary to our independence as to our comfort."¹³ At the same time he retained his skepticism as to the value of an extended foreign trade. Desirable as it was to promote industrial development in the United States, it was nonetheless desirable to encourage it only up to a certain point—that of national self-sufficiency. Jefferson continued to be apprehensive of the dangers of industrialism;¹⁴ agriculture, in his opinion, always remained the soundest of all pursuits.¹⁵

Jefferson loved the people and hated class distinction of any kind. In Virginia, however, as in many of the European countries, there was a whole system of laws and usages expressly arranged to keep property from being distributed.¹⁶ As

¹¹ Extract from Jefferson's "Notes on Virginia," Query 19, in Lipscomb and Bergh, 2:230.

¹² Lipscomb and Bergh, 12:270.

¹³ Jefferson to Benjamin Austen, 1816, in Paul Leicester Ford, ed., *The Works of Thomas Jefferson*, 11:500-505 (New York and London, 1904-05, 12 v., Federal ed.). Hereafter this edition is cited as Ford.

¹⁴ Jefferson to Thomas Cooper, 1814, in Lipscomb and Bergh, 14:179. Cf. the letter of Jefferson to John Melish, 1813, which describes the damages wrought by industrial civilization to England, in Ford, 11:275.

¹⁵ Chinard, *Thomas Jefferson*, 471, 489-512, does not consider "Jefferson as a hundred per cent. agrarian" and disagrees with some of the interpretations in Charles A. Beard, *Economic Origins of Jeffersonian Democracy* (New York, 1915).

¹⁶ John Parton, "Jefferson a Reformer of Old Virginia," in *Atlantic Monthly*, 30:35 (July 1872). "Fathers could prevent a profligate son from sinking to his natural level in the community, by entailing upon him and upon the first-born of his male descendants, not his landed estates only, but the negroes who gave them value; and this entail could only be broken by a special act of the Legislature. The law of primogeniture prevented the natural division of estates among all the family of a deceased proprietor, excluding all the daughters, and all the sons but one. The consequence was, that the best portions of Virginia were held by a few families, who suffered the ills and inconveniences of aristocratic rank, without attaining that moral elevation which is possible to aristocrats who accept the public duties of their position."

a member of the committee elected by the Virginia Assembly to revise the laws of the State, he succeeded in having the laws of entail and primogeniture repealed in 1776 and 1785, respectively, in spite of fierce opposition.¹⁷ "Instead of an aristocracy of wealth," declared Jefferson, the way was now open to an "aristocracy of virtue and talent."¹⁸ He forcibly stated that "the repeal of the laws of entail would prevent the accumulation and perpetuation of wealth in select families. . . . The abolition of primogeniture . . . removed the feudal and unnatural distinction which made the eldest son of every family rich and all the rest poor."¹⁹ Here, then, were early indications of his belief that democracy should be founded on an economic system of small landowning farmers—"upon that wide distribution of property which was possible only when land was cheap and plentiful."²⁰

All of Jefferson's lands, like those of the other Virginia planters, were, of course, operated with slave labor.²¹ Slavery was abhorrent to him, and he constantly expressed opposition to it. On two occasions, he proposed legislative measures to put an end to the curse of slavery.²² He was not in favor of emancipation unless the slaves could be colonized, and he was convinced that abolition without adequate preparation for it would precipitate a worse evil. In his *Notes on Virginia* he advanced a plan which he still adhered to in 1815.²³ Compelled as he was to operate under the slave system, it is to be noted that he

¹⁷ Jefferson, in a letter to John Adams, 1813, dwelt with pride on the fact that the laws of Virginia abolishing entails and primogeniture "drawn by myself, laid the ax to the foot of pseudo-aristocracy."—Ford, 11:346. See also Parton, "Jefferson a Reformer of Old Virginia," 43. On the opposition Jefferson encountered, see Ford, 1:58-65.

¹⁸ S. E. Forman, *The Life and Writings of Thomas Jefferson*, 22 (Indianapolis, 1900). Also Lipscomb and Bergh, 1:53-65. By destroying the continuance of an aristocracy based on land, Jefferson incurred the lifelong hostility of this class. See Chinard, *Thomas Jefferson*, 89.

¹⁹ Mabel Carlton, *Thomas Jefferson the Sage of Monticello*, 26, 27 (New York, 1926). Those who opposed Jefferson pleaded that the eldest son should at least have a double portion. Jefferson replied, characteristically, that not unless the eldest son could eat twice as much, or do a double portion of work. See Ford, 1:69.

²⁰ Beard, *Economic Origins of Jeffersonian Democracy*, 422.

²¹ Of Jefferson's treatment of his slaves, Bacon, chief overseer, said: "Mr. Jefferson was always very kind and indulgent to his servants. He would not allow them to be at all overworked, and he would hardly ever allow one of them to be whipped. His orders to me were constant, that if there was any servant that could not be got along with without the chastising that was customary, to dispose of him. He could not bear to have a servant whipped, no odds how much he deserved it."—Rev. H. W. Pierson, *Jefferson at Monticello*, 103 (New York, 1862).

²² James Parton, *Life of Thomas Jefferson*, 189-190, 218, 270 (Boston, 1883); and Charles M. Wiltse, *The Jeffersonian Tradition in American Democracy*, 104 (Chapel Hill, N. C., 1935).

²³ Lipscomb and Bergh, 2:191-200. See also, Jefferson to David Barrow, 1815, in *ibid.*, 14:296-297: "The mind of the master is to be apprised by reflection, and strengthened by the energies of conscience, against the obstacles of self-interest to an acquiescence in the rights of others; that of the slave is to be prepared by instruction and habit for self-government, and for the honest pursuits of industry and social duty. Both of these courses of preparation require time, and the former must precede the latter."

never bought slaves as an investment.²⁴ Furthermore, he taught them trades so that they might be self-supporting in case they were made free.

The agricultural methods and practices of Jefferson's time were extremely crude and unproductive. There were evidences of worn-out lands everywhere.²⁵ During his youth, Jefferson followed the common practice of the Southern planter and exhausted the soil by the cultivation of tobacco and corn in endless sequence. Later, he saw the error of this and experimented with an improvement program.²⁶ He was one of the first of the "gentlemen" farmers to make full use of animal and vegetable manures together with artificial fertilizers, and to adopt a system of crop rotation which would allow the worn-out lands to regain fertility.²⁷ He divided his cultivated lands into four farms of 280 acres each, and each farm into seven fields of 40 acres.²⁸ The seven fields indicated his system of rotating crops, which embraced seven years: first year, wheat; second, corn; third, peas or potatoes; fourth, vetches; fifth, wheat again; sixth and seventh, clover.²⁹ The introduction of artificial grasses was an essential part in the development of ameliorating crop rotation. Jefferson tried out lucerne, chicory, succory, sainfoin, and various kinds of clover. Clover was the grass generally selected in all regions where it would grow, and it became the legume in his system.³⁰

²⁴ It appears, however, that he sometimes leased his slaves. An entry in his farm book in 1801 gives a list of forty-seven "negroes leased to J. H. Craven," of whom few were under fifty, and twenty-one were over ninety years of age. See *Farm Book* [1774-1822], 60 (Original, Massachusetts Historical Society, Boston).

²⁵ See Jefferson to President Washington, 1793, in Lipscomb and Bergh, 9:139-143, for a survey of agriculture in Virginia at the end of the eighteenth century. See also A. R. Hall, "Early Erosion-Control Practices in Virginia," U. S. Department of Agriculture, *Miscellaneous Publication* 256, p. 2-8 (Washington, 1937).

²⁶ Avery O. Craven, *Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland, 1606-1860*, p. 86 (Urbana, Ill., 1926). "The earliest agencies of the new agricultural life were the owners of great estates. . . . Their efforts consisted not only in changes of method and crops but also in the organization of Agricultural Societies and the production of an agricultural literature. Working individually but constantly exchanging ideas by letter or through the press, such men as Washington, Jefferson, Madison, John Taylor, J. M. Garnett, etc., formed what might well be called a school of gentleman farmers who had run counter to the general backward drift."

²⁷ *Ibid.*, 82. See also Lewis Cecil Gray, *History of Agriculture in the Southern United States to 1860*, p. 802 (Washington, 1933); and Kathleen Bruce, "Virginian Agricultural Decline to 1860: A Fallacy," *Agricultural History*, 6:3-13 (January 1932).

²⁸ Jefferson owned more than a dozen properties in Albemarle, Bedford, and Campbell counties. His land roll in 1794 lists 10,647 acres and the land roll in 1810 lists 10,004½ acres. See *Farm Book*, 32, 127. For an interesting and valuable account of Jefferson's activity as a "book" farmer, see the reminiscences of Captain Edmund Bacon, the chief overseer and business manager of Jefferson's plantation for twenty years, in Rev. Hamilton W. Pierson, *Jefferson at Monticello* (New York, 1862).

²⁹ See Gray, *History of Agriculture in the Southern United States*, 808. See also Jefferson to Washington, 1796, in Lipscomb and Bergh, 9:342; to John Taylor, 1794, in *ibid.*, 18:196; to James Monroe, 1795, in Ford, 8:176; to Washington, 1794, in *ibid.*, 148.

³⁰ Jefferson to John Taylor, 1794, in Ford, 8:146: "In such of my fields as are too much worn for clover, I propose to try St. foin, which I know will grow in the poorest land, bring

Jefferson observed the prevailing method of plowing used by the farmers on the hillsides of Albemarle County,³¹ and was distressed by the way rain storms often destroyed the farmers' efforts by washing both soil and crops down the hillside. During his travels abroad he became acquainted with the European practice of horizontal and terraced plowing and influenced his son-in-law, Thomas Mann Randolph, to introduce it in Virginia.³² This method was promoted by the development of a hillside plow.³³

In his study of agriculture, Jefferson was thorough, even to the extent of being meticulous, for he felt that no detail should be overlooked if it contributed to the comfort and happiness of the people. Consequently, he gave considerable attention to the culture of unusual plants, either for their beauty or utility,³⁴ but he was not a devotee of botany as a science in itself. His genuine interest in the discovery of plants suited to the needs of the agriculturist was active and continuous. What plants were best adapted to the climate and soil of different parts of the United States,³⁵ and how various garden vegetables could be cultivated most advantageously were questions which constantly demanded his attention. He never tired of experimenting, and no vegetable was too commonplace nor too difficult for this lover of the soil.³⁶ At Monticello

plentiful crops, & is a great ameliorator. . . . My neighbors to whom I had distributed some seed of the *Succory critybus*, bro't from France by Young, & sent to the President, are much pleased with it. I am trying a patch of it this year." See also Jefferson to Madison, 1795, in Lipscomb and Bergh, 9:303—"I am proceeding in my agricultural plans with a slow but sure step. To get under full way will require four or five years. . . . My little essay in red clover, the last year, has had the most encouraging success. I sowed then about forty acres. I have sowed this year about one hundred and twenty From one hundred and sixty to two hundred acres, will be my yearly sowing." See also Parton, *Life of Thomas Jefferson*, 506.

³¹ For a detailed description of farming in Albemarle County, see Jefferson to Jean Baptiste Say, 1815, in Lipscomb and Bergh, 14:260-267.

³² Jefferson to Tristram Dalton, 1817, in Ford, 12:56-57: "A method of ploughing over hill sides horizontally, introduced into the most hilly part of our country by Col. T. M. Randolph . . . may be worth mentioning to you. He has practised it a dozen or 15 years, and it's advantages were so immediately observed that it has already become very general, and has entirely changed and renovated the face of our country . . . At present we may say that we lose none of our soil, the rain not absorbed in the moment of it's fall being retained in the hollows between the beds until it can be absorbed." The letter also tells in detail how the plowing was actually conducted. See also Hall, "Early Erosion-Control Practices in Virginia," 13-20.

³³ Gray, *History of Agriculture in the Southern United States*, 796.

³⁴ E. H. Sadler, *The Bloom of Monticello*, 15 (Richmond, Va., 1926). "Apropos of plants," Jefferson wrote his grandchild, Anne Randolph, ". . . make a thousand apologies to Mrs. Bankhead for the favor proposed of cape jessamine. It will be cherished with all possible attention, and in return proffer her calycanthus, pecan, silk trees, Canada martagon, or anything else we have." See also Rodney H. True, "Thomas Jefferson in Relation to Botany," *Scientific Monthly*, 3:345-360 (October 1916).

³⁵ For the enumeration of "the trees, plants, fruits, &c." in Query 6 of the *Notes on Virginia*, see Ford, 3:400-408.

³⁶ See Jefferson's Farm Book and Jefferson's Garden Book, 12-18 (Original in Coolidge Collection, Massachusetts Historical Society, Boston). The latter for March and April

in 1812 some thirty-two vegetables were cultivated along with twenty-two crops and thirteen different varieties of grasses. "No occupation is so delightful to me as the culture of the earth," he once said, "and no culture comparable to that of the garden."³⁷ For many years he kept a carefully tabulated record of the earliest appearances of the common garden products in the local markets, and while in Washington he kept a record of the first and last appearance of every variety of vegetable—thirty-seven in all.³⁸ In addition, Jefferson was deeply interested in arboriculture.³⁹ He eagerly promoted the culture of fig, mulberry, and sugar trees and introduced several varieties of vines and trees from Europe. One of his early experiments at Monticello was the cultivation of grapes for making wine, and he was indebted for the success of this experiment to Philip Mazzei, a Tuscan vigneron. Monticello could claim the distinction of being the only place in America to grow many of these vegetables, crops, grasses, trees, and vines.

Jefferson was interested in ridding agriculture of the scourge of certain blighting pests,⁴⁰ especially the weevil and the Hessian fly, and carried on a number of experiments in that direction. His practice of burning the wheat stubble to destroy the Hessian fly is still used.⁴¹

The farmers of Jefferson's day were also backward in the raising of livestock, and Jefferson sought to improve the breeds by importing animals from Europe.⁴² He was one of the early importers of Merino sheep from Spain. The following letter affords an interesting proposal with reference to the importations of this breed:

I have been so disgusted with the scandalous extortions lately practiced in the sale of these animals. . . . Since fortune has put the occasion upon us, is it not incumbent upon us so to dispense this benefit to the farmers of our country. . . . No sentiment is more acknowledged in the family of Agriculturists than that the few who can afford it should incur the risk and expense of all new improvements, and give the benefit freely to the many of more restricted circumstances. . . . Give all the full-blooded males we can raise to the different counties of our State, one to each, as fast as we can furnish them. . . . This will take about seven years, if we add to the full descendants those which will have passed to the fourth genera-

1774, contains the following vegetables and plants with their Italian names: "Garlic of Terracina, succory of Pistoia, pimpernel of Pisa, Spanish headed cabbage of Pisa, parsley, Pisan carrots, a French broccolo cabbage of Pisa, white onions, (the two apricots) Meliache and Albicocche, cornelian cherries, raspberries, Alpine strawberries, May strawberries, Augusta beans, green white-eyed beans, cucumbers, white Tuscan beans, watermelon of Neapolitan seed, Massa melons, small orange melons of Pistoia, white squash, black squash, squash from Monaco, Lauri squash, Pescatori squash."

³⁷ Jefferson to Charles W. Peale, 1811, in Lipscomb and Bergh, 13:79. See also Sadler, *The Bloom of Monticello*, 10.

³⁸ William Eleroy Curtis, *The True Thomas Jefferson*, 112 (Philadelphia, 1901). See also Lipscomb and Bergh, 19:vi.

³⁹ Bacon said that Jefferson "knew the name of every tree, and just where one was dead or missing."—Pierson, *Jefferson at Monticello*, 39.

⁴⁰ Jefferson to Thomas Mann Randolph, 1791, in Ford, 6:250.

⁴¹ Gray, *History of Agriculture in the Southern United States*, 818, 819.

⁴² See Paul Wiltstach, *Jefferson and Monticello*, 123 (New York, 1925).

tion from common ewes. To make the benefit of a single male as general as practicable to the county, we may ask some known character in each county to have a small society formed which shall receive the animal and prescribe rules for his care and government. We should retain ourselves all the full-blooded ewes, that they may enable us the sooner to furnish a male to every county.⁴³

Jefferson became a pioneer in the use of competent farm machinery, and whenever he heard of a new device that bore upon farming he promptly investigated and wrote about it to his fellow farmers. He was the first to introduce the threshing machine into America, and he wrote to Madison:

My threshing machine has arrived at New York [from Scotland]. Mr. Pinckney writes me word that the original from which this model is copied, threshes 150 bushels of wheat in 8 hours, with 6 horses and 5 men. It may be moved either by water or horses. Fortunately the workman who made it (a millwright) is come in the same vessel to settle in America. I have written to persuade him to go on immediately to Richmond, offering him the use of my model to exhibit, and to give him letters to get him into immediate employ in making them. . . . It will thresh any grain from the Windsor bean down to the smallest.⁴⁴

It answered its purpose so well that all the planters in the neighborhood sent for machines or had them made at home.

Shortly afterward, Jefferson wrote enthusiastically about a new seedbox which "reduces the expense of seeding from six shillings to two shillings and threepence the acre, and does the business better than is possible to be done by the human hand."⁴⁵ A little later he wrote about the value of using a new drill. "I have tried this year the Carolina drill. It is absolutely perfect. Nothing can be more simple, nor perform its office more perfectly for a single row. I shall try to make one to sow four rows at a time of wheat or peas, at twelve inches distance."⁴⁶

Observing that the type of plow in use was extremely clumsy with its wooden moldboards, Jefferson proceeded to apply his mechanical genius to practical purposes and designed a moldboard of least resistance. As early as 1788, Jefferson began to work out mathematically the shape and angle of the moldboard, and introduced the practice of having it cast entirely of iron.⁴⁷ His object was to secure the regular inversion of a certain depth of the surface soil with the least application of force. By 1796, his new plow was in use; it received many awards, among them a medal from the Royal Agricultural Society of the Seine.⁴⁸

⁴³ Jefferson to President James Madison, 1810, in Lipscomb and Bergh, 12:389.

⁴⁴ Jefferson to Madison, 1793, in Lipscomb and Bergh, 9:214. See also Jefferson to Washington, 1796, *ibid.*, 343; and Jefferson to Thomas Mann Randolph, 1793, in Ford, 8:16.

⁴⁵ Jefferson to Madison, 1795, in Lipscomb and Bergh, 9:304.

⁴⁶ Jefferson to Washington, 1796, in *ibid.*, 342.

⁴⁷ Jefferson described his moldboard in a letter to Sir John Sinclair, dated Mar. 23, 1798, and printed in American Philosophical Society, *Transactions* (ser. 1), 4:313-322 (Philadelphia, 1799). See also Rodney H. True, "Early Days of the Albemarle Agricultural Society," in American Historical Association, *Annual Report*, 1918, 1:246. Also Jefferson to Robert R. Livingston, 1800, in Ford, 9:133.

⁴⁸ Jefferson to Jonathan Williams, 1796, in Lipscomb and Bergh, 9:347.

Another one of his inventions was a hemp brake which, he said, "has been so long wanted by the cultivators of hemp, that as soon as I can speak of its effect with certainty, I shall probably describe it anonymously in the public papers, in order to forestall the prevention of its use by some interloping patentee."⁴⁹ It was typical of Jefferson not to patent anything useful which he devised; on the contrary, he always published a description of it.

Jefferson's mechanical ability was highly regarded, and he was frequently consulted by inventors of agricultural machinery. Robert Mills who filed the first application for a patent for a reaping machine submitted to him the model and drawings before he presented them to the Patent Office.⁵⁰ Before retiring as Secretary of State, Jefferson issued a patent to Eli Whitney for the invention of the cotton gin. Jefferson's perspicacity in appreciating the value of this great invention, which was to revolutionize agriculture, is clearly demonstrated by the questions he raised in his official communication:

As the state of Virginia, of which I am, carries on household manufactures of cotton to a great extent, as I also do myself, and one of our great embarrassments is the clearing the cotton of the seed, I feel a considerable interest in the success of your invention, for family use. Permit me therefore to ask information from you on these points. Has the machine been thoroughly tried in the ginning of cotton, or is it as yet but a machine of theory? What quantity of cotton has it cleaned on an average of several days, & worked by hand, & by how many hands? What will be the cost of one of them made to be worked by hand? Favorable answers to these questions would induce me to engage one of them to be forwarded to Richmond for me.⁵¹

Jefferson's only book, *Notes on Virginia*,⁵² written during his busiest days as Minister to France has been described as something more than its title would indicate, "for it is a history, a geography, a dissertation on government, forestry, agriculture, horticulture, botany, geology, and topography all in one."⁵³ This authoritative manual is especially valuable for the complete picture that it gives of its author's mind and theories at that time. Throughout the book he stressed the fact that American civilization was essentially agricultural and agricultural it must remain.⁵⁴ It might be stated that this book was the forerunner

⁴⁹ Curtis, *The True Thomas Jefferson*, 381. See Gray, *History of Agriculture in the Southern United States*, 822. Also Jefferson to George Fleming, 1815, in Lipscomb and Bergh, 14:369.

⁵⁰ See Curtis, *The True Thomas Jefferson*, 382, for an extract from Jefferson's letter to the inventor.

⁵¹ Jefferson to Whitney, 1793, in Ford, 8:70. In reply, Whitney related the history of the cotton gin and spoke modestly of his invention. See Whitney to Jefferson, 1793, quoted in Denison Olmstead, *Memoir of Eli Whitney, Esq.* (New Haven, 1846).

⁵² The story of the publication is told in the scholarly edition of "Notes on Virginia" in Ford, 3:313.

⁵³ Carl Holliday, "The Amazing Versatility of Jefferson," in *Overland Monthly*, 88:359 (December 1930). The subjects covered in *Notes on Virginia* appear in the following order: boundaries; rivers; seaports; mountains; mineral, vegetable and animal products; climate; population; aborigines; government; religion; manners; manufactures; commerce.

⁵⁴ Lipscomb and Bergh, 2:1-261.

of the great library of scientific reports which have since been issued by the State and Federal governments. The book is further distinguished by being thoroughly human and readable.

Jefferson kept a highly detailed memorandum book on his gardens from 1766 to 1824, some fifty-eight years in all. This Garden Book contains many notes of interest showing the author's concern for the field, orchard, and garden.⁵⁵ It reflects most clearly his deep interest in the processes of nature. The notes which record the time of planting, sprouting, and ripening of his garden vegetables are accompanied by drawings and diagrams of plots or beds. The following excerpt gives a sketchy idea of the composition of the book:

MONTICELLO⁵⁶

1775

- Mar. 6. sowed a patch of peas after steeping them in water 24 hours. (note the seed came from I. Bolling's)
7. rain snow and hail with an Easterly wind for 4 days
11. cleared up cold with a North West wind.
25. replanted all the pomegranates in their proper row. also planted 4. others on S.E. edge of garden. also a Medlar Russetin.
- in the row of Peach trees for Apricots planted 4. apricot trees, viz. the 1st. 2d. 4th. and 5th. counting from S. W. end.
- peas up
28. planted 5. grapes from N. Lewis's on S.E. edge of garden.
29. sowed peas. (from T. Morgan's)
- planted 2 beds of Asparagus seed
30. cold easterly wind, rain and hail

Besides the Garden Book, Jefferson also kept a Farm Book in his own handwriting which gives fragmentary but interesting sidelights on his farming activities. His agricultural observations were arranged under seventeen headings with more than fifty subdivisions.

APHORISMS, OBSERVATIONS, FACTS IN HUSBANDRY⁵⁷

- I. Implements of husbandry and operations with them.
the plough. pa. 62. harrow. 63. roller. 63. hoes. 64. axes. 64. waggons. 65. carts. 65. slides. 66. wheelbarrows. 66.
- II. Farm buildings and conveniencies.
Threshing machine. 67. Treading floor. 68. Granary. 68. Roads. 69. fences. 70. fuel. 71. timber. 71.
- III. Animals. viz. Horses. 72. mules. 72. oxen. 73. cattle. 73. sheep. 74. goats. 75. hogs. 75.

⁵⁵ For an account of the Garden Book, see Rodney H. True, "Thomas Jefferson's Garden Book," American Philosophical Society, *Proceedings*, 76:939-945 (1936).

⁵⁶ Garden Book, 6.

⁵⁷ Farm Book [1774-1822], 61 (Original in Coolidge Collection, Massachusetts Historical Society, Boston). Whenever Jefferson observed or learned anything about farming which he considered worth remembering, he recorded it under an appropriate heading in a section of his handbook which he called "Aphorisms, Observations, Facts in Husbandry." This page rightly serves as an index.

- IV. Overseers. 76. Labourers. 77.
- V. Provisions. 78.
- VI. Preparation of ground to wit fallow. 79.
green-dressings. vetch. 80. buckwheat. 81. turnep. 80. Manure. 82.
- VII. Plants. to wit. Wheat. 84. Rye. 85. Oats. 85. Barley. 86. Corn. 86. Potatoes. 87. Peas. 88. Clover. 89. fodder. 91. straw. 91. Lucerne. 92. Succory. 92. other grasses. 93. Artichokes. 94. Cotton. 95. hemp and flax. 95. Pasture. 96. Orchards. 96.
- VIII. Rotation of crops. 97.
- IX. Calendar of work. 100.
- X. Building. Brick. 102. Stone. 103. Wood. 104. Lime. 105.
- XI. Mill. 106.
- XII. Still. 108. Brewing
- XIII. Smith's shop. 109. Nailery. 110. Coal. 113.
- XIV. Carpenters. 114.
- XV. Spinning. Weaving. 116.
- XVI. Potash. 117.
- XVII. Tenants. 119.

The library at Monticello contained all the recent and authoritative books on agriculture. In answer to a request for a list of books on agriculture in 1817, Jefferson mentioned more than fifty, including works in Italian, French, and English.⁵⁸ He was one of the enlightened agriculturists who contributed freely to the agricultural press in its early years.⁵⁹

During his residence abroad in 1784-1789 when he was Minister to France, Jefferson traveled widely through Europe.⁶⁰ Wherever he went he displayed a keen interest in farming methods and conditions. The following letter records certain of his observations on agriculture in France on the eve of the French Revolution:

I am never satiated with rambling through the fields and farms, examining the culture and cultivators, with a degree of curiosity which makes some take me to be a fool, and others to be much wiser than I am. I have been pleased to find among the people a less degree of physical misery than I had expected. They are generally well clothed, and have a plenty of food, not animal indeed, but vegetable, which is as wholesome. Perhaps they are overworked, the excess of the rent required by the landlord obliging them to too many hours of labor in order to produce that, and wherewith to feed and clothe themselves. . . . The soil, the climate, and the productions are superior to those of England, and the husbandry as good, except in one point; that of manure. In England, long leases for twenty-one years, or three lives, to wit, that of the farmer, his wife, and son, renewed by the son as soon as he comes to the possession, for his own life, his wife's and eldest child's, and so on, render the farms there almost hereditary, make it worth the farmer's while to manure the lands highly, and give the landlord an opportunity of occasionally making his rent keep pace with the improved state of the lands. Here the leases are either during pleasure, or for three, six, or nine years, which does not give the farmer time to repay himself for the expensive operation of well manuring, and, therefore, he manures ill, or not at all. I suppose, that could the

⁵⁸ *American Farmer*, 2:94 (June 16, 1820).

⁵⁹ *Ibid.*, 2:67, 185-187 (May 26, Sept. 8, 1820), 3:294-295, 320 (Dec. 7, 21, 1821).

⁶⁰ Wiltach, *Jefferson and Monticello*, 63-67; A. J. Nock, *Jefferson*, 155-161 (New York, 1926).

practice of leasing for three lives be introduced in the whole kingdom, it would, within the term of your life, increase agricultural productions fifty per cent.; or were any one proprietor to do it with his own lands, it would increase his rents fifty per cent., in the course of twenty-five years.⁶¹

In spite of his diplomatic duties, Jefferson managed to send to his correspondents in America information likely to benefit the agricultural interests of the country. Almost every one of his letters written during this period makes reference to his favorite occupation of farming. More than that, he sent home many European species of seeds, plants, trees, shrubs, and flowers.⁶² One of his greatest services to mankind was the introduction of upland rice into South Carolina and Georgia. While in Paris the superiority and wide sale of Piedmont rice came to his attention, and for a time he was not sure whether the difference between this rice and the Carolina rice was due to a difference in the grain or in the method of cleaning. On a visit to the Piedmont region he noticed that the Italians cleaned their rice by a process similar to that used in South Carolina, and concluded that the Italian rice was of a better species. He desired to send seed to his friends, but at that time the government of Turin prohibited the exportation of rough rice on the penalty of death. Jefferson inveigled a muleteer to smuggle several sacks of rough rice across the Apennines. Not having complete faith in the man's honesty, Jefferson filled his own pockets with the best rice of Italy. The muleteer did meet Jefferson over the border, however, and the "fruits of iniquity" were sent to South Carolina and Georgia where they furnished these States with the best rice in the world.⁶³

Jefferson tried to introduce olive culture into the Southern states, and time and again he wrote of this subject in his letters.⁶⁴ He had great hopes for the culture of the olive and sent over some five hundred olive plants to South Carolina declaring:

The olive is a tree the least known in America, and yet the most worthy of being known. Of all the gifts of heaven to man, it is next to the most precious, if it be not the most precious.

⁶¹ Jefferson to Lafayette, 1787, in Lipscomb and Bergh, 6:106-108. For his observations on agriculture in England, see Jefferson to John Page, 1786, in *ibid.*, 5:303-306.

⁶² George Surface, "Investigations into the Character of Jefferson as a Scientist," *Journal of American History*, 4:214-220. "I send at present, by Mr. McQueen, some seeds of a grass, found very useful in the southern parts of Europe. . . . It is called by the names of Sulla, and Spanish St. Foin, and is the *Hedysarum coronarium* of Linnaeus."—Jefferson to William Drayton, 1786, in Lipscomb and Bergh, 5:312. "By Colonel Franks, in the month of February last, I sent a parcel of acorns of the cork oak, which I desired him to ask the favor of the Delegates of South Carolina in Congress to forward to you."—Jefferson to William Drayton, 1787, in *ibid.*, 6:204. See also Nock, *Jefferson*, 167, 168.

⁶³ His efforts to establish the growing of upland rice in America grew out of his realization of the loss of health and of life in the malarial rice fields of Carolina in the production of wet rice. Nock, *Jefferson*, 169. The following Jeffersonian letters are of great interest in the culture of dry rice in America: Jefferson to Edward Rutledge, 1787, in Ford, 5:302; to John Jay, 1787, in *ibid.*, 269. For a very descriptive and entertaining account of the introduction of upland rice to America, see Jefferson to William Drayton, 1787, in Lipscomb and Bergh, 6:193-204.

⁶⁴ See Jefferson to Washington, 1791, in Lipscomb and Bergh, 8:190; Jefferson to Thomas Mann Randolph, 1791, in Ford, 6:251.

... A pound of oil [olive], which can be bought for three or four pence sterling, is equivalent to many pounds of flesh, by the quantity of vegetables it will prepare, and render fit and comfortable food. . . . This is an article, the consumption of which will always keep pace with its production. Raise it, and it begets its own demand . . . cover the southern States with it, and every man will become a consumer of oil, within whose reach it can be brought in point of price.⁶⁵

The culture was begun with enthusiasm, but whether from the unsuitableness of the soil or the climate nothing ever came of his efforts.⁶⁶

His services to the infant, unskilled agriculture of his own country seemed endless. In his "Scheme for a System of Agricultural Societies," he proposed local or county agricultural organizations,⁶⁷ and the union of them into a state society for the purpose of disseminating agricultural knowledge among the planters and farmers. The American farmer of today is aware of the benefits derived from such a system of mutual cooperation between individuals. Jefferson, himself, was an influential factor in the life of the Albemarle Agricultural Society,⁶⁸ and he kept the agricultural societies at Charleston and Philadelphia well supplied with agricultural information, seeds, roots, nuts, and plants. Nor did he confine his services to his own country, for he also sent American plants, shrubs, seeds, and nuts to Europe for experimental purposes.⁶⁹ In founding the University of Virginia he hoped that it would be the first American university to organize scientific agriculture as a separate department. Due to lack of funds he was unable to realize this desire.⁷⁰

Jefferson spent the last years of his life enjoying the tranquility and repose of country life and devotion to his family, acres, gardens, and buildings.⁷¹ He did not have the faculty of making his acres yield him profit, however, and by 1825 he came face to face with bankruptcy.⁷² Jefferson felt that the "dis-

⁶⁵ Jefferson to William Drayton, 1787, in Lipscomb and Bergh, 6:200.

⁶⁶ Jefferson to James Ronaldson, 1813, in Ford, 11:271. "It is now twenty-five years since I sent them [South Carolinians] two shipments (about 500 plants) of the Olive tree of Aix, the finest Olives in the world. If any of them still exist, it is merely as a curiosity in their gardens, not a single orchard of them has been planted."

⁶⁷ See Lipscomb and Bergh, 17:404-410. Also letter of Jefferson to John Hollins, 1809, in *ibid.*, 12:252.

⁶⁸ Rodney H. True, ed., "Minute Book of the Agricultural Society of Albemarle," American Historical Association, *Annual Report*, 1918, 1:263-349.

⁶⁹ Sadler, *The Bloom of Monticello*, 17, 18. "He was constantly exchanging roots and plants and cuttings, and no day was too busy for him to be sending them abroad by messenger or mail. He literally scattered seed broadcast throughout the country."

⁷⁰ Surface, "Investigations into the Character of Jefferson as a Scientist," 214-220; letter of Jefferson to David Williams, 1803, in Lipscomb and Bergh, 10:428-431.

⁷¹ Jefferson to Kosciusko, 1810, in Lipscomb and Bergh, 12:369. "I am retired to Monticello, where, in the bosom of my family, and surrounded by my books, I enjoy a repose to which I have been long a stranger . . . I talk of plows and harrows, of seeding and harvesting, with my neighbors, and of politics too, if they choose, with as little reserve as the rest of my fellow citizens, and feel, at length, the blessing of being free to say and do what I please, without being responsible for it to any mortal."

⁷² See Jefferson to James Madison, 1826, in Lipscomb and Bergh, 16:157. Also letter to Thomas Jefferson Randolph, 1826, in Ford, 12:453-455.

gusting dish of politics" which had taken him away from his "peas and clover" was responsible, as it had made such great demands on his time that he was prevented from acquiring anything but general ideas on agriculture. The greater reason for the poor financial returns was the lack of steady markets and inability to get the produce to them.⁷³

Yet, it is not true to say that Jefferson failed as a farmer. He was no mere theorist but a practical experimenter, and although his contributions to agriculture brought him little monetary reward they were of real benefit to the Nation.⁷⁴ In spite of his economic reverses he never lost his love for the land and respect for agriculture as an occupation. Statesman, lawyer, farmer—of these three he was emphatically, by his own inclination and conviction, a farmer.

⁷³ Jefferson to Tristram Dalton, 1817, in Ford, 12:56; Craven, *Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland*, 109-117.

⁷⁴ "For those who remained, the successes or even failures of the earlier reformers [Washington, Jefferson, John Taylor, and others] now had great value. Here was the foundation upon which the future must be established. And great as had been the failures of the earlier agents of improvement, not all had been lost."—Craven, *Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland*, 121.

AN INTRODUCTION TO CANADIAN AGRICULTURAL HISTORY

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The Dominion Government's wheat policy for 1941-42 has been widely interpreted as marking the end of a great Canadian agricultural era.¹ Historians, sporadically interested in Canadian agriculture, have emphasized the significance of events which occurred just over a decade ago, and have thought them sufficiently important to mark the end of the latest agricultural period.² It is impossible yet to measure the relative importance for Canadian agriculture of war-created conditions as compared with those of the pre-war years. A decade more or less is of little consequence in relation to eras, and a lengthening of perspective forces us to recognize that the position of agriculture within the Canadian economy has changed markedly since 1920, and continues to change.³ Many factors such as drought and world depression, and possibly the far-reach-

¹ This paper was read at the joint session of the Canadian Historical Association and the Canadian Political Science Association at Kingston, Ontario, May 22, 1941. It was published in the *Canadian Journal of Economics and Political Science*, February 1942, p. 56-68, and is here printed with the permission of the author and V. M. Bladen, managing editor of the Canadian publication. The paper by Everett E. Edwards on "Agricultural History as a Field of Research," which was read at the same session, is in the Canadian Historical Association, *Report*, 1941, p. 15-22.

The wheat policy, announced at Ottawa on Mar. 12, 1941, combined financial assistance with financial sanctions in an attempt to persuade western farmers to direct as much as one-third of their 1940 wheat acreage to other specified uses. See *Canada, House of Commons Debates*, Mar. 12, 1941, p. 1595-1601. Commenting on this policy the *Financial Post* asserted (Mar. 22, 1941, p. 11): "Canada [has] reversed its historic agricultural role of endeavouring to make two blades of grass grow where one grew before. Instead Ottawa now urges that only two-thirds of a blade be grown where one grew and flourished in 1940. . . . For the time being at least it [Canada's war-time wheat policy] spells the end of the great era of farm expansion. . . ." The *Canadian Forum* (April 1941, p. 4) declared: "The great era in Canadian history which was marked by the rise of the prairie and its dominant position in our export economy is over . . . the west will not again count for so much either economically or politically. This is a tragedy from every point of view. But it is only a part of the general decline of agriculture in Canadian life."

² Chester Martin has stressed the definitive nature of conditions surrounding the transfer of natural resources to the Prairie Provinces in 1930. See his "Dominion Lands" Policy, p. 197, 466-494 (*Canadian Frontiers of Settlement*, v. 2, Toronto, 1938). R. G. Riddell has said: "Seldom are historians presented with so sharply delimited an historical process as that which begins in Western Canada with the transfer of the territory to the Dominion of Canada and ends in economic crisis sixty years later" ("A Cycle in the Development of the Canadian West," *Canadian Historical Review*, September 1940, p. 268-284).

³ See K. W. Taylor, "The Commercial Policy of Canada," in H. R. Kemp, ed., *Canadian Marketing Problems* (Toronto, 1939); *The Economic Background of Dominion-Provincial Relations: A Study Prepared for the Royal Commission on Dominion-Provincial Relations*, Appendix 3 by W. A. Mackintosh (Ottawa, 1939); H. A. Innis, "Economic Trends," in Chester Martin, ed., *Canada in Peace and War* (Toronto, 1941).

ing impact of the present war, have served to shrink the stature of the wheat economy; but, more particularly, the phenomenal rise since 1920 of the newer staples, minerals and newsprint, is placing the wheat economy and Canadian agriculture in general in a position of shrunken *relative* importance, despite record wheat acreage and production for the biennium 1939-40.

The main purposes of this paper develop in relation to the above considerations. Now is an obvious time to take stock in the field of Canadian agricultural history, and to note what research has been done. Since, however, bibliography requires some frame of reference, it is necessary to postulate something of the historical rôle of agriculture within the Canadian economic framework, and to use this hypothesis as a guide for the arrangement and evaluation of relevant materials. This approach is at once a method of analysis and a plea that agricultural history be not thought to consist solely in changing censuses of rural populations and farm stock, in acres cultivated and bushels produced. Detailed studies in agricultural history should be designed to integrate rather than to atomize the field.

The hypothesis put forward here as a frame of reference is that the clearest and most significant uniformity regarding Canadian agriculture for more than three hundred years has been its deliberate and consistent use as a basis for commercial and political empire. Toward this end, it is suggested, Canadian agriculture has been fostered and moulded, supported by legislation and public moneys, advocated alike by the press and from the platform and pulpit, with all the nostalgic vigour of the ever-recurring back-to-the-land crusade. Canadian agriculture has served as an instrument of empire in different ways according to the requirements of place and time. Simplest and most obvious has been its use as a defence device, where settlement has been encouraged for the protection of territory and trade routes. Equally widespread has been its use as the provisioner of the great staple trades, whether fish, fur, sugar, or timber, or of the carrying trade itself. Provisioning, of course, has been a defence function, since in the economic conflict of competitive empires, notably the English and the French, survival necessitated a degree of commercial vitality possible only on a strong agricultural base. A significant change occurred, probably within the past century, when Canadian agriculture finally achieved direct commercial importance as the provider of a staple product, wheat. With this development there came to be a Canadian agricultural frontier in the sense that agriculture now offered to commerce the vitality which can derive only from an ever-expanding circumference of economic activity. It is suggested, therefore, that Canadian agriculture over the centuries has been an instrument of commercial and political empire in three ways:⁴ first, as a means for the defence of territory and trade routes; second, as

⁴ D. C. MacGregor has suggested that significance attaches to the rôle of Canadian agriculture as a reservoir of surplus labor for industry, commerce, and the professions. This approach offers interesting possibilities for historical analysis, beginning with the earliest days of North American settlement. From the very beginning the colonists on the St. Lawrence forsook their grants and meager clearings to take part in the fur trade, later to go to the timber bush, and later still to the factories.

a provisioner of the great staple trades; and third, as the supplier of a staple product, thus directly transmitting to commerce the dynamic of the frontier.

The relationship between agriculture and empire was sharply projected, from the earliest days of North American settlement, in the light of the long and bitter struggle between the French and the English for New World dominance. Codfish, fur, sugar, slaves, provisions, and shipping occupied similar positions in the commercial plans of the French and the English, and trade in these goods and services in turn required provisioning. In the intensely competitive staple markets the relative cheapness and abundance of the salable staple were largely determined by the relative abundance of contributory agricultural supplies. More than that, territory and trade routes needed defence, for military conflict was inseparable from economic conflict. Settlement of the St. Lawrence and the introduction of the seigniorial system were imperative in the vain hope that French fur-trade routes might be adequately garrisoned against the constant harassing of Iroquois-European alliances. Until 1713 French hopes for an agricultural basis of empire rested on the possibilities of Acadia as well as of the St. Lawrence; and with some justification, for the diked marshes of the Bay of Fundy gave somewhat the same grudging tolerance to primitive animal husbandry as the St. Lawrence regions did to cereal husbandry. The Treaty of Utrecht, however, was proof of the relative ineffectiveness of French agriculture in the two areas; and by its terms the balance was shifted still further in favor of the English with the transference to English control of the Acadian agricultural regions. Establishment of Halifax and colonization of Lunenburg were English defence moves effective in countering French aggressiveness at the middle of the eighteenth century; but of more fundamental importance in the final French withdrawal from the St. Lawrence and Cape Breton was the agricultural backwardness of New France as compared with New England. The New England colonies early developed agricultural resources more than sufficient to provision the British staple trades. France could scarcely withstand an opponent upon whom she continuously relied for foodstuffs.

The functional relationship between New World agriculture and commercial and territorial empire is clear throughout the French régime. After 1763, and particularly after 1783, however, interrelationships of agricultural and other interests in British North America appear more complex. The predominant economic phenomenon associated with the conquest was the commercial revitalization of the St. Lawrence by Anglo-American traders; but agriculture too was improved, and this enough to establish the self-sufficiency of St. Lawrence settlements which the French had sought in vain. Thereafter, despite the persistent efforts of Montreal commercial interests further to improve habitant agriculture, French settlements remained at the level of self-sufficiency, not being called upon to provision the fur trade or the timber trade, and failing even to provision Montreal. Population growth was largely cared for by movement into the fur and timber trades of Canada, the timber trade of Michigan, and finally the textile industry of the New England States. Turning attention back to 1783, the influx of settlement tended to diversify New World agricul-

ture. The impetus given by Loyalists and post-Loyalists was a divisive as well as a creative force. New Brunswick was set apart from Nova Scotia, and Upper Canada from Lower Canada. Timber preferences introduced by Britain in 1809 created farmer-lumberman economies in the St. John and Ottawa River valleys which differed from each other and from agricultural economies in other areas. The establishment of the Selkirk settlement in the Western Territories added a final element of agricultural diversity. At this point there is ready agreement with the statement that: "the history of British North America before 1867 must resolve itself into histories of the various regions, if not of the separate provinces."⁵

If, however, there is need for detailed studies of agricultural development after 1783, related to particular places and times, there is also need to search for the underlying unity of the problem. Viewed in relation to commercial empire, the varied agriculture of the British North American colonies retained the unity which characterized it in the French period. At least until 1850 its essential functions were the defence of territory and trade routes, and the provisioning of the staple trades. Settlement of Loyalists and of disbanded soldiers, first at the upper posts and later along the upper St. Lawrence, was clearly a joint provisioning and defensive move,⁶ carefully fostered to feed the garrisons and to form a barrier of loyal British subjects against the subversive influences of the enemies of the Empire. The "strategic motive" was evident in plans for settlement after 1812.⁷ Though timber replaced fur as the staple of the St. Lawrence after 1800, and was added to cod as a staple for the Maritimes, the need for defence and provisions remained. The timber trade made additional use of immigration and settlement as a means of providing return cargoes for westbound timber ships. As settlement and agricultural production gathered momentum in Upper Canada, particularly after the War of 1812-14, traders in Montreal gradually built up entrepôt facilities and established agencies to handle the trickle of inward and outward traffic, a trickle which grew in volume as Upper Canadian agriculture became less and less self-sufficient and finally forced its recognition as a fully-grown export economy.

In the maritime colonies from 1783 to 1850, the provisioning function of agriculture was more in evidence than that of territorial defence. The prime economic interest of Nova Scotia remained centered in the cod fisheries, trade, and shipbuilding; and the intense commercial competition with Newfoundland and New England could be maintained only on the basis of cheap provisions for the fisheries and cheap, assorted trade cargoes requiring agricultural produce—grains and meats, horses and cattle. New Brunswick timber camps required

⁵ A. R. M. Lower, *The North American Assault on the Canadian Forest*, p. 64 (*Relations of Canada and the United States*, Toronto, 1938).

⁶ H. A. Innis and A. R. M. Lower, eds., *Select Documents in Canadian Economic History, 1783-1885*, p. 10-11, 18-20 (Toronto, 1933); A. L. Burt, *The Old Province of Quebec*, ch. 15 (Toronto, 1933).

⁷ A. R. M. Lower, "Immigration and Settlement in Canada, 1812-20," *Canadian Historical Review*, March 1922, p. 37-47.

provisions, and here appeared the anomaly of "farmers" buying farm produce with which to carry on timbering and shipbuilding operations. Boston readily offered cheap provisions, but mercantile groups in New Brunswick distrusted such lack of independence and attributed the recurring crises which characterized the timber trade to the persistent specie drain associated with food imports. Prince Edward Island became a genuine agricultural colony, partially provisioning Nova Scotia and New Brunswick, supplying horses and hay for lumber camps and cattle for the Newfoundland trade. No aspect of Canadian agriculture in the period 1783-1850 is more interesting than that of the attempts of the maritime commercial interests to encourage domestic agriculture, attempts which included example, cajolery, evangelical persuasiveness, warnings, threats, and all varieties of petty cash assistance.

Considering Canadian agriculture as auxiliary to commerce, the period 1850-1930 forms a unit. It is uncertain when exports of Canadian wheat first reached the proportions of a staple trade, but the commercial character of the annexation movement of 1849, following the removal of colonial wheat preferences, indicates that such proportions had been reached by 1850. Having come to be recognized as the originator of a new staple trade, Canadian agriculture assumed an additional and more direct relationship to commercial activity. Provisioning and defence functions survived; but with the ability to provide a staple for commerce, the agriculture of the St. Lawrence came increasingly to fill the gap left by the decline of fur and later of timber in contributing to commerce the dynamic of the frontier. Fur had ceased to vitalize the St. Lawrence even before 1821, for the fur frontier had halted at the Arctic and the Pacific. Timber had similarly failed by 1850, with the shrinkage of timber preferences, though this failure was disguised for some time by the profitable nature of the associated commerce in great droves of immigrants. With the collapse of immigration after 1847 the reliance of St. Lawrence commerce on the agricultural frontier became evident. The suggestion here is that from 1850 to 1930 the commercial and financial groups on the St. Lawrence pinned their first hopes for prosperity on the possibility of continued expansion of staple-producing agriculture.

To corroborate this suggestion there may be cited the efforts of St. Lawrence interests to tap the American frontier by means of canals and railways, to create a Canadian agricultural frontier in the Ottawa-Huron tract, and finally to assure, by the instrument of Confederation, that the Northwestern Territories be prevented from falling prey to the commerce of the eastern United States. The Canadian Bureau of Agriculture, created in 1852, was charged specifically with the encouragement of immigration from other countries. In the ten years preceding Confederation thirteen committees reported to the Assembly of the province of Canada on various aspects of immigration and colonization, but only when they mentioned the agricultural possibilities of the West does one sense a glimmer of hope in their deliberations. The ground work for the eventual fulfillment of these hopes was laid gradually over the dec-

ades: by investigation and exploration—the investigation of the Hudson's Bay Company's administration by the British House of Commons, and the exploration of the Western Territories by Palliser, Dawson, and Hind; by the consummation of Confederation, the constitutional medium for the empire-colony relationship contemplated within British North America; by Canadian acquisition of the Western Territories, and by the placing of western lands in Federal custody for the so-called "purposes of the Dominion"; by the construction of a transcontinental, all-Canadian railroad; by the institution of the "National Policy" of tariff protection, to canalize the flow of economic benefits from the western plains, up and over the natural barrier north of Lake Superior, and into the central Canadian regions; and finally, by the establishment of the experimental farm system to hasten the migration northward of American techniques for the agricultural conquest of the prairie. By 1890 all these steps had been taken, and only the long-anticipated results were lacking. Not till after 1900 were the pre-Confederation hopes for an abundant export agriculture in the West fully realized. From 1900 till 1930 western agriculture expanded within the Canadian economy, absolutely and relatively; but with the rise of newsprint and minerals, western agriculture had by 1930 relinquished the frontier rôle to these newer staple industries.

Keeping in mind the hypothesis concerning the historical rôle of Canadian agriculture, we turn more specifically to questions of bibliography. What aspects of Canadian agricultural history have so far been investigated? General histories of Canadian agriculture, comparable with the works of P. W. Bidwell and J. I. Falconer, of L. C. Gray, and of N. S. B. Gras, in the United States, do not exist; nor is there a work on Canadian agriculture to compare with the histories of other Canadian industries such as those by H. A. Innis on the cod fisheries and the fur trade, or of A. R. M. Lower on the timber trade. What research there is in Canadian agricultural history has not uniformly sought to relate agriculture to other phases of the Canadian economy. However, according to the principle that an understanding of agricultural development must be sought in relation to the basic commercial activities of any particular time and place, certain publications are helpful to agricultural history though mentioning agriculture only incidentally. This class would include Innis's *Cod Fisheries* (1940), Lower's works on the timber trade (published in 1936 and 1938), D. G. Creighton's *Commercial Empire of the St. Lawrence* (1937), and G. N. Tucker's *The Canadian Commercial Revolution, 1845-1851* (1936).

Probably the most striking characteristic of monograph material on Canadian agriculture, apart from its scarceness, is its "lumpiness," or the way in which it is concentrated on certain phases of the subject, on certain areas and periods, and has, in fact, appeared for the most part in one great batch within the past decade. If we dispose of the monographs which have appeared in the comparatively fruitful period since 1929, there will be little left. First in importance, and representing the triumph of the idea that Frederick Jackson Turner's thesis must have some significance for Canadian economic history, are the eight

volumes so far completed in the "Canadian Frontiers of Settlement" series. Seven of these volumes and nearly all the other volumes on Canadian agriculture which have appeared since 1929, deal with prairie agriculture. These others are: on wheat and wheat marketing, W. W. Swanson and P. C. Armstrong, *Wheat* (1930); D. A. MacGibbon, *The Canadian Grain Trade* (1932); H. Boyd, *New Breaking* (1938); G. E. Britnell, *The Wheat Economy* (1939); H. A. Innis, ed., *The Diary of Alexander James McPhail* (1940); on land policy, James B. Hedges, *The Federal Railway Land Subsidy Policy of Canada* (1934) and *Building the Canadian West* (1939); on western colonization, Robert England, *The Central European Immigrant in Canada* (1929) and *The Colonization of Western Canada* (1936); on ranching, C. M. MacInnes, *In the Shadow of the Rockies* (1930). C. A. McGrath's pamphlet, *The Galls: Father and Son* (1935) deals with the development of the Lethbridge district. Arthur S. Morton's *History of the Canadian West* (1940) contains much agricultural information. Monographs appearing since 1929, without particular relation to western agriculture, are W. T. Easterbrook's on agricultural credit (1938), E. A. Howes' *With a Glance Backward* (1939), Marcus Hansen's posthumous volume on Canadian-American migration (1940), a volume on the dairy industry edited by Innis (1937), and volumes by A. J. Madill (1937), and J. C. Miller (1940) on agricultural education.

On the basis of subject matter, monograph materials on Canadian agriculture bulge in the direction of immigration and settlement. This bulge includes the studies of Hedges, England, and Hansen, as well as the "Canadian Frontiers of Settlement" series, on western aspects of the problem; it also includes the volumes on colonization in New France by Emile Salone (1906) and G. Vattier (1928). Then there are works on various aspects of pioneering by A. C. Garrioch, *A Hatchet Mark in Duplicate* (1929), W. C. Pollard, *Life on the Frontier* (London, n.d.), and *Pioneering in the Prairie West* (London, n.d.), and Isabel Skelton, *The Backwoodswoman* (1924). Finally, there are many volumes dealing chiefly with migration to, and settlement in, the Central Provinces: L'abbé Ivanhoë Caron, *La colonisation de la province de Québec, 1760-1791* (1923), and *La colonisation de la province de Québec, 1791-1815* (1927); W. A. Carrothers, *Emigration from the British Isles* (1929); Helen Cowan, *British Emigration to British North America, 1783-1837* (1928); S. C. Johnston, *A History of Emigration from the United Kingdom to North America, 1763-1912* (1913); Norman Macdonald, *Canada, 1763-1841, Immigration and Settlement* (1939); G. Patterson, *Land Settlement in Upper Canada* (1920); W. S. Wallace, *The United Empire Loyalists* (1914); chapter 15 of A. L. Burt, *The Old Province of Quebec* (1933).

Monographs on Canadian agriculture which appeared before 1929, and which deal with topics other than immigration and settlement, include William Bennett Munro's *The Seigniorial System* (1907); Chapais' *Notes historiques sur les écoles d'agriculture dans Québec* (1916); A. H. Reginald Buller's *Essays on Wheat* (1919); J. A. Ruddick's *Historical and Descriptive Account of the Dairying Industry in Canada* (1911); a volume by Chester Martin dealing with the

natural resources question (1920), and pioneering efforts to interpret certain phases of farmers' economic and political organization; Walter P. Davisson, *Pooling Wheat in Western Canada* (1927); W. C. Good, *Production and Taxation in Canada, from the Farmers' Standpoint* (1919); William Irvine, *Co-operative Government* (1929), and *The Farmers in Politics* (1920); W. A. Mackintosh, *Agricultural Co-operation in Western Canada* (1924); Hopkins Moorhouse, *Deep Furrows* (1918); J. B. Morman, *Farm Credits in the United States and Canada* (1924); Harold S. Patton, *Grain Growers' Cooperation in Western Canada* (1928); M. H. Staples, ed., *The Challenge of Agriculture* (1921); L. A. Wood, *A History of Farmers' Movements in Canada* (1924).

Scattered articles on various phases of Canadian agricultural history are to be found in the reports and journals of learned societies, as well as in such miscellaneous publications as *Canada and Its Provinces*, the *Encyclopedia of Canada*, the *Cambridge History of the British Empire*, and the *Cyclopedia of American Agriculture*. As might be expected from the nature of the monograph materials mentioned, most articles on Canadian agriculture deal with problems of immigration and settlement, or with those of wheat. The many articles which have confined their attention to the situation since 1930 are easily traced in current literature, but the following list of historical articles in periodicals may prove useful, and indicates the scope of the work that has been done.

Immigration and Settlement: E. J. Ashton, "Soldier Land Settlement in Canada," *Quarterly Journal of Economics*, May 1925. Sir John Bourinot, "Builders of Nova Scotia . . .," Royal Society of Canada, *Transactions*, 1899, sec. 2. W. A. Carrothers, "The Immigration Problem in Canada," *Queen's Quarterly*, Summer 1929. James H. Coyne, "The Talbot Papers," Royal Society of Canada, *Transactions*, 1907, sec. 2, 1909, sec. 2. A. W. H. Eaton, "The Settling of Colchester County, Nova Scotia, by New England Puritans and Ulster Scotsmen," *ibid.*, 1912, sec. 2. Margaret Ells, "Settling the Loyalists in Nova Scotia," Canadian Historical Association, *Report*, 1934. Robert England, "The Emergent West," *Queen's Quarterly*, Autumn 1934; and "Land Settlement in Northern Areas of Western Canada, 1925-35," *Canadian Journal of Economics and Political Science*, November 1935. W. F. Ganong, "Origins of Settlements in New Brunswick," Royal Society of Canada, *Transactions*, 1904, sec. 2. Paul W. Gates, "Official Encouragement to Immigration by the Province of Canada," *Canadian Historical Review*, March 1934. D. C. Harvey, "Early Settlement and Social Conditions in Prince Edward Island," *Dalhousie Review*, January 1932. W. Burton Hurd, "The Relation of Origins of Immigrants to the Settlement of the Country," Canadian Political Science Association, *Papers and Proceedings*, 1930. Elizabeth Jaffary, "Farming in Peace River a Century Ago," *Queen's Quarterly*, Summer 1929. A. R. M. Lower, "Immigration and Settlement in Canada, 1812-20," *Canadian Historical Review*, March 1922; "The Assault on the Laurentian Barrier, 1850-1870," *ibid.*, De-

ember 1929; and "The Case Against Immigration," *Queen's Quarterly*, Summer 1930. Duncan McArthur, "What is the Immigration Problem?" *ibid.*, Autumn 1928. W. S. MacNutt, "Why Halifax Was Founded," *Dalhousie Review*, January 1932-3. A. A. Marchbin, "The Origin of Migration from South-Eastern Europe to Canada," Canadian Historical Association, *Report*, 1934. James Mavor, "A Chapter of Canadian Economic History, 1791-1839," Royal Society of Canada, *Transactions*, 1922, sec. 2. Frances Morehouse, "Canadian Migration in the Forties," *Canadian Historical Review*, December 1928. Hugh M. Morrison, "The Principle of Free Grants in the Land Act of 1841," *ibid.*, December 1933; and "The Secret Passenger Warrant System of 1872," *ibid.*, December 1937. W. C. Murray, "Continental Europeans in Western Canada," *Queen's Quarterly*, Winter 1931. George V. V. Nichols, ed., "The Diary of an Early English Settler in Quebec," *Canadian Historical Review*, March 1930. E. H. Oliver, "The Coming of the Barr Colonists," Canadian Historical Association, *Report*, 1926; "The Beginnings of White Settlement in Northern Saskatchewan," Royal Society of Canada, *Transactions*, 1925, sec. 2, "The Settlement of Saskatchewan to 1914," *ibid.*, 1926, sec. 2; "The Institutionalizing of the Prairie," *ibid.*, 1930; sec. 2, "Peter Veregin," *ibid.*, 1932, sec. 2; and "Economic Conditions in Saskatchewan," *ibid.*, 1933, sec. 2. Frank D. Oliver, "The Founding of Edmonton," *Queen's Quarterly*, Winter 1930. Ven. Archdeacon Raymond, "Colonel Alexander McNutt and the Pre-Loyalist Settlements of Nova Scotia," Royal Society of Canada, *Transactions*, 1912, sec. 2. W. H. Siebert, "The American Loyalist Settlements in the Eastern Seigniories and Townships of the Province of Quebec," *ibid.*, 1913, sec. 2; "The Loyalist Settlements on the Gaspé Peninsula," *ibid.*, 1914, sec. 2; "The Temporary Settlements of Loyalists at Machiche, P.Q.," *ibid.*; and "The Refugee Loyalists of Connecticut," *ibid.*, 1916, sec. 2. Roland Wilson, "Migration Movements in Canada, 1868-1925," *Canadian Historical Review*, June 1932.

Aspects of the Wheat Economy: G. E. Britnell, "The Rehabilitation of the Prairie Wheat Economy," *Canadian Journal of Economics and Political Science*, November 1937. F. W. Burton, "Wheat in Canadian History," *ibid.*, May 1937; and "The Wheat Supply of New France," Royal Society of Canada, *Transactions*, 1936, sec. 2. Edward Corcoran, "My Experiences as a Farm Hand in Canada," *United Empire*, March 1929. A. W. Currie, "Freight Rates on Grain in Western Canada," *Canadian Historical Review*, March 1940. C. R. Fay, "The Co-operative Marketing of Wheat," Canadian Bankers' Association, *Journal*, 1925. T. W. Grindley, "Wheat in the Canadian West," *Queen's Quarterly*, Spring 1930; and "The Canadian Wheat Board," *Canada Year Book*, 1939. E. Cora Hind, "A Story of Wheat," *Canadian Geographical Journal*, February 1931. C. C. James, "An Historical War Crop—The Canadian Wheat Crop of 1915," Royal Society of Canada, *Transactions*, 1916, sec. 2. D. A. MacGibbon, "Grain Legislation Affecting Western Canada," *Journal of Political Economy*, March 1912. W. A. Mackintosh, "The Crisis in Wheat," *Queen's*

Quarterly, Autumn 1939. Wyatt Malcolm, "The Grain Trade," *Canada Year Book*, 1922-3. H. S. Patton, "The Canadian Wheat Pools in Prosperity and Depression," in Norman E. Hines, ed., *Economics, Sociology and the Modern World* (Cambridge, 1935); and "Observations on Canadian Wheat Policy since the World War," *Canadian Journal of Economics and Political Science*, May 1937. R. G. Riddell, "A Cycle in the Development of the Canadian West," *Canadian Historical Review*, September 1940. Mitchell W. Sharp, "Allied Wheat Buying in Relationship to Canadian Marketing Policy, 1914-18," *Canadian Journal of Economics and Political Science*, August 1940.

Land Policy: C. S. Burchill, "The Eastern Irrigation District," *Canadian Journal of Economics and Political Science*, May 1939. H. A. Innis, "The Place of Land in North American Federations," *Canadian Historical Review*, March 1940. Chester Martin, "Our 'Kingdom for a Horse': The Railway and Land Grant System in Western Canada," Canadian Historical Association, *Report*, 1934. Hugh M. Morrison, "The Principle of Free Grants in the Land Act of 1841," *Canadian Historical Review*, December 1933; and "The Background of the Free Land Homestead Law of 1872," Canadian Historical Association, *Report*, 1935. R. G. Riddell, "A Study in the Land Policy of the Colonial Office, 1763-1855," *Canadian Historical Review*, December 1937. D. J. Thom, "The Torrens System of Land Titles in the West," *Canadian Banker*, October 1938.

Agrarian Movements: W. C. Good, "The Farmers' Movement in Canada," *Dalhousie Review*, January 1923. J. Othmar Robinson, "Ontario's Farmer Government," *National Municipal Review*, October 1920. J. A. Stevenson, "The Agrarian Movement in Canada," *Edinburgh Review*, July 1920. Frank H. Underhill, "Some Aspects of Upper Canadian Radical Opinion in the Decade before Confederation," Canadian Historical Association, *Report*, 1927. See also anonymous, "The Agrarian Movement in Canada," *Quarterly Review*, January 1921.

Rural Credit: H. Michell, "The Problem of Agricultural Credit in Canada," *Queen's Quarterly*, January 1914. E. W. L. Mitchell, "The Financing and Marketing of the Niagara Fruit Crop," Canadian Bankers' Association, *Journal*, July 1925. J. A. Stevenson, "Agricultural Credit Systems and the West," Canadian Political Science Association, *Papers and Proceedings*, 1913. S. R. Weaver, "Financing of Farms in Saskatchewan," *Journal of Political Economy*, April 1914.

Agricultural Education and Research: J. H. Grisdale, "Agricultural Progress and Experimental Farm System," *Canada Year Book*, 1937. W. Lohead, "Agricultural Colleges and Agricultural Development in Canada," *United Empire*, April 1924. Frank T. Shutt, "Agricultural Education and Research in Canada," Royal Society of Canada, *Transactions*, 1916, sec. 3.

Agricultural History: A. B. Balcom, "Agriculture in Nova Scotia since 1870," *Dalhousie Review*, April 1928. G. S. H. Barton, "Historical Background of

Canadian Agriculture," *Canada Year Book*, 1939. Raymond P. Gorham, "Birth of Agriculture in Canada," *Canadian Geographical Journal*, January 1932; and "Early Agriculture in New Brunswick," Canadian Society of Technical Agriculturists, *Review*, June 1936. J. H. Grisdale, "The Development of Agriculture in Canada," *Canada Year Book*, 1924; and "Provincial Departments of Agriculture," *ibid.*, 1930.

Fred Landon has explored the American influence on Canadian agriculture in articles in *Agricultural History* (October 1933) and in the Ontario Agricultural College *Review* (April-May 1937), and has contributed to *Agricultural History* (October 1935) a pioneering article in Canadian bibliography for agricultural history, analyzing Upper Canada agricultural journals and their possibilities for the research student. Walter N. Sage, in a paper read at the annual meeting of the Canadian Historical Association in 1928, suggested the possibilities of the frontier analysis for Canadian agricultural history. Chester Martin discussed the reactionary "colonial" policy of the Dominion Government in relation to its western "colonies"—Manitoba, Saskatchewan, and Alberta—in papers read before the Royal Society of Canada in 1920 and 1922. The Public Archives of Nova Scotia published two informative bulletins in 1940 on Nova Scotian agricultural societies and agricultural organization from 1818 to 1885. In the *Dalhousie Review* (1923-4) M. Cumming extolled the virtues of John Young, and R. Magill raised the question of royal commissions (1921-2). The list is rendered reasonably complete by adding these articles: W. M. Drummond, on the dairy industry (*Canadian Journal of Economics and Political Science*, November 1936, August 1937); J. H. Grisdale, on departments of agriculture (*Canada Year Book*, 1930, 1936); C. Hill-Tout, on agricultural aid (Canadian Political Science Association, *Papers and Proceedings*, 1913); Alice J. E. Lunn, on agriculture and war in the French régime (*Canadian Historical Review*, June 1935); H. Michell, on agricultural prices (*Canadian Journal of Economics and Political Science*, May 1935); J. B. Rutherford, on agricultural income (*ibid.*, August 1938); J. J. Talman, on Upper Canada agricultural societies (Ontario Historical Society, *Papers and Records*, 1931); and C. W. Vrooman and G. L. Burton on ranching in the West (*Economic Annalist*, April, June 1941). Reference should also be made to the round-table discussions on agricultural economics reported in the *Papers and Proceedings* of the Canadian Political Science Association, 1931, 1933, and 1934, and to articles on Canadian agriculture and population printed in the *Annals* of the American Academy of Political and Social Science, May 1923.

Much secondary material of widely varying quality and accessibility is unpublished, particularly as graduate theses. The annual lists of theses printed in the *Canadian Historical Review* make enumeration unnecessary, but by way of illustration mention may be made of a Harvard Ph.D. thesis by R. L. Jones, "History of Agriculture in the Province of Canada," and an Ottawa Ph.D. thesis by O. A. Lemieux, "The Development of Agriculture in Canada during

the French Régime," and of the theses at the University of Western Ontario on agricultural history and the farmers' movement by F. V. Robinson, C. C. Toon, N. Douglas, and C. S. Buck, and at the University of Toronto on Livestock marketing by H. J. Abbott and N. A. Drummond. R. L. Jones's thesis contains fine bibliographical material, including a list of sources and a critical bibliography. Section 4 of the "Bibliography of Canadian Economics" which was started by Innis in *Contributions to Canadian Economics* and which has been continued in the *Canadian Journal of Economics and Political Science* provides a useful check list.

THE FOOD ADMINISTRATION—EDUCATOR

MAXCY R. DICKSON

*The National Archives,
Washington, D. C.*

Among the memories of World War I, there comes to mind the well-known slogan "Food will win the war—don't waste it!"¹ With this request as a basis for its program the Food Administration went to every man, woman, and child in the country and explained how they could help win the war. It was generally recognized that food and particularly American food would assume a rôle of prime importance in determining the result of the conflict. Food, as Jack Foster of the New York *World-Telegram* has said, is "the necessity of all necessities, the prime essential of war, greater in importance than bombs and shrapnel. It is as sharp as steel, the driest—the deadliest of all weapons."² For military, economic, and humanitarian reasons, the Government had been forced to take action which would insure an adequate food supply for the American armies and people and for the forces and population of the associated powers. And so, on August 10, 1917, the Food Control Act was signed by President Wilson. According to the New York *World*, it had been held up for three months by crooked politics and crooked business, Chicago grain gamblers, and pacifist and pro-German members of Congress.³ Other elements that entered into the fight were the personal animosity of Senator James A. Reed of Missouri to the man he called (among other things) "J. Rufus Wallingford" Hoover,⁴ and the bitter opposition of the prohibitionists who desired the enactment of national prohibition with this measure.

The act declared that national security and defense made it necessary for the Government to establish control over the supply, distribution, and movement of food, feeds, fuel, fertilizer and fertilizer ingredients, tools, utensils and implements, and equipment required for the actual production of foods, feeds, and fuels. It made clear that destruction, hoarding, monopolizing, wasting, and profiteering in any necessities were unlawful. The President was authorized to license the importation, manufacture, storage, mining, or distribution of any necessities. But most agricultural products and retailers whose business was less than one hundred thousand dollars per year were exempt. This clause was to be the greatest headache of all for the Food Administration officials; the great problem of prices and profits centered in the retail trade. The law further pro-

¹ This paper was presented at the luncheon of the Agricultural History Society with the American Historical Association at Chicago on Dec. 29, 1941. It is a summary of certain phases of a larger study by the author on "The United States Food Administration as a Propaganda Agency" which is nearing completion. This study is based on extensive research in the records of the United States Food Administration in The National Archives.

² "Your Living Requirements," in Laurence A. Nixon, ed., *When War Comes*, 142 (New York, 1939).

³ *Literary Digest*, 55(7):9 (Aug. 18, 1917).

⁴ *New York Times*, July 17, 1917, p. 3.

vided that no foods, fruits, food materials, or feeds were to be used in the production of distilled spirits for beverage purposes. No distilled spirits were to be imported into the United States. This had come about as a result of an agreement with the distillers who stated that they had at least a two-year supply on hand. The brewing of beer, however, was not prohibited for the President did not wish to put the country on a whiskey basis.⁵

With the measure at last a law, the new governmental agency set forth on its colorful career. Beginning with the small group that had its offices in a few rooms in the Willard Hotel in Washington, it soon grew to an organization of nineteen hundred people in its own buildings on the old Horseshow Block at Eighteenth and D Streets and with some sixty thousand workers throughout the country. Most all of these were volunteers. Hoover had stated at the beginning that he would "cut off every official and every theorist." There must be, above all, "no professors on the job." He would turn to the commercial interests—the only people who knew anything practical about food.⁶ But in this matter he was completely unable to be consistent. Besides the thousands of home economics teachers who carried on the "practical" problems of food, many outstanding school men were called to Washington to conduct the business of food administration. Among these were Ray Lyman Wilbur, the president of Stanford University; Alonzo E. Taylor, professor of physiological chemistry in the University of Pennsylvania; Olin Templin, head of the department of philosophy and dean of the college of liberal arts and sciences in the University of Kansas; Charles R. Van Hise, distinguished geologist and president of the University of Wisconsin; and Frederick C. Woodward, professor of law in the University of Chicago.

The Food Administration was divided into forty-eight divisions; it is with one of these—the Educational Division—that this article is primarily concerned. The chief of this division, Ben S. Allen, was a Stanford graduate, a newspaper man, and a close associate of Hoover.⁷ To him was given the task of making the country "stomach conscious"—the task of changing the food habits of the people. Hoover himself wrote the first propaganda message—"Go back to the simple life, be contented with simple food, simple pleasures, simple clothes. Work hard, pray hard, play hard. Work, eat, recreate and sleep. Do it all courageously. We have a victory to win."⁸

The Educational Division, which had the responsibility of selling the food conservation program to the country, was organized like a large newspaper office. It was designed to reach not only the general public through the daily press, but it was formed to deal also with every group and special interest.

⁵ *U. S. Statutes at Large*, 40:276. The Act is summarized in Ivin L. Pollock, *The Food Administration in Iowa*, 5-10 (Iowa City, 1923); and Frank M. Surfact, *The Grain Trade during the World War*, 9-10 (New York, 1928).

⁶ *New York Globe* quoted in *Current Opinion*, 63:19 (July 1917).

⁷ See biographical sketch in the Food Administration Files, FA 10H-B3.

⁸ Published as a Food Administration Leaflet.

Besides the work of supplying the daily press regularly with news material concerning food there was a farm journals section concerned solely with special articles for the farm interests—a section that was kept busy throughout the war explaining to irate editors and farmers what the Food Administration could do and could not do concerning prices, and why it had adopted certain policies. There was a magazine and feature section to supply the women's magazines and the women's pages of the daily press with material intended to make the kitchen the first line of defense; a vernacular press section to reach the non-English groups in the country; a Negro press section which asked these people to work six days a week and to give up Saturday frolicking, and which also requested Southerners to abolish the wasteful "pan-toting" system. There were, in addition to these, a trade and technical press section to provide material for this type of periodical, and a religious journals section for the churches, fraternal orders, and patriotic societies. Other units designed to bring the "gospel of the clean plate" to various groups included the speakers bureau, the retail stores section, the schools and colleges division, the advertising section, the library and exhibits section, the press clipping section, illustrations and plate section, and the section to handle the motion picture theaters. Besides the specialized work of these units there were special problems to be handled by all of the organizations set up. Some of these included pledge-card campaigns, campaigns for wheatless and meatless days, campaigns to combat German propaganda, campaigns concerning the problems of garbage, ice, fish, perishables, sugar, prices, the fifty-fifty rule (the use of 50 percent of other flours with wheat flour), penalties, and the very special problem of the Allies in Europe.

Through all of these media the Food Administration sought constantly to keep before the American public the great need for conservation as a means of winning the war. A Statistical Division under the direction of Raymond Pearl, the distinguished biologist and statistician of Johns Hopkins University, prepared a barrage of facts and figures to show how production could not meet the situation. Time was the vital factor. America's armies and Allies could be fed only by conservation, concentration, and consecration.

There were many striking incidents that illustrate the efforts to sell the message of food conservation to the American people. From the speakers bureau were sent experienced lecturers who stirred crowds to such a pitch that in rural communities farmers arose to say that henceforth their "hogs belonged to Hoover,"⁹ and after some meetings suspected pro-Germans were taken out and talked to in the language of tar pots, feathers, and hempen ropes.¹⁰ A special group of speakers toured the Midwest during the great blizzard of 1917-18. The difficulties encountered in transportation and in holding meetings made their work one of the heroic pages in the history of American propaganda efforts. From the retail stores section came reports of armies of clerks going out at the

⁹ Edward F. Trefz to Mrs. Mina C. Van Winkle, chief of the Speakers Bureau, Feb. 11, 1918, in FA 5HB-A1.

¹⁰ R. B. Bowden to Mrs. Mina C. Van Winkle, Mar. 11, 1918, in FA 5 HB-A1.

end of the daylight-saving day to cultivate gardens and to assist the farmers with the harvesting of their crops. The spirit of '18 must keep the home garden going! Incidentally, it might be added here that many were the farmers who looked with apprehension at this oncoming horde of enthusiastic, inexperienced workers. Also, from the retail stores soon came plaintive cries for regulation in order to insure fair play. Merchants, they said, were being penalized for their patriotism. The Food Administration was particularly effective in the schools and colleges. The home economics divisions became vital parts of the machinery to disseminate conservation lessons. In this crisis, it was declared, the country must put aside the three "R's," if necessary, in order that its educational system aid in the winning of the war.¹¹ Advertising which was rapidly becoming a leading national industry was also an effective means of spreading the conservation program. From the advertising pages of newspapers and magazines, from the painted signboards on the highways, and from gleaming electric signs—"so many visions bright"—in crowded industrial centers the American people never escaped the slogan, "Food will win the war—don't waste it!" Save wheat, save meat, save sugar. The effectiveness of this type of approach was so far-reaching that even in an isolated mining camp the Chinese cook wrote his own food poster for the workers there.

Please ever person must be to help
 The Government to win this war
 Please do not against government
 Every persons three pounds sugar per a month
 We want to win this war.¹²

In the movies, food conservation slides appeared between the feature picture and other items on the program, catching the eye of some who were coming in or who were leaving. In addition, there were trailers featuring such well-known stars as Douglas Fairbanks, Mary Pickford, Billie Burke, and Marguerite Clark, who appeared in scenes illustrating methods of conservation and explaining the need for it. The legitimate stage and the Hollywood and New York producers agreed to abolish the use of real food in scenes during the war. For a time at least, Americans were required to forsake the drama of the custard pie. To popularize certain commodities which were desired as substitutes, great stress was laid on the "name" foods such as Indian maize, Irish potatoes, Bohemian rye bread, "Dutch" sauerkraut (it was explained that sauerkraut was of Dutch origin, not German), French pot-au-feu, Chinese chop suey, and Hawaiian poi.

There were other problems to constantly beset the people who were trying to convince a nation to save food. For example, prohibitionists declared that as long as the British workers were drinking beer and the French were drinking wine they would have no part of wheat conservation. Traveling men bitterly

¹¹ Report of Conference of Representatives of Schools held in Washington, D. C., June 14, 1918, FA 34H-A1.

¹² See the files of the advertising section, FA 12HK-A5.

protested that hotels and restaurants were eagerly taking advantage of the conservation requests and were at the same time boosting their prices. One unnamed would-be poet penned these lines in honor of the Autocrat of the Breakfast Table:

My Tuesdays are meatless
My Wednesdays are wheatless
I am getting more eatless each day
My home it is heatless
My bed it is sheetless
They are all sent to the Y.M.C.A.
The bar-rooms are treatless
My coffee is sweetless
Each day I get poorer and wiser
My socks are feetless
My trousers are seatless
My God, how I do hate the Kaiser!¹³

As a phase of conservation, the Food Administration made special drives for the consumption of substitutes. Corn bread and potatoes were to be used instead of wheat, and fish instead of meat. Just as the farmers were encouraged to turn back marginal lands into cultivation and put their plows into the plains, the States and the Federal Government were asked to repeal all laws concerning fish and game in order that there might be the greatest supply possible. The Nation was told to eat fish—a good war dish. The armed forces, the forces of the Allies, and the civilian population had to have food, that is, wheat, meat, fats, and sugar. Time was the very essence of victory. As one speaker put it, every American ship that sailed away to Europe postponed hell.

All of this effort and activity brought results. At the end Hoover could report that for the period 1916–18 the United States had shipped nearly 10 billion pounds of meats and fats, dairy products, and vegetable oils, and some 1½ billion bushels of cereals and cereal products worth \$3,670,000,000,¹⁴ all of which was financed by the United States Treasury.¹⁵ Another statistical report shows that for 1915 and 1916 the United States exported nearly 7 million tons of food commodities; and for 1917–19, 31 million tons, an increase of 345 percent.¹⁶ These shipments were achieved during a period when, because of severe and unfavorable weather conditions, there had even been decreases in some crops. Not only had this food fed the United States armies, bolstered the Allies, and made victory possible, but it was also the chief factor in restoring international morale after the war. It saved Europe from anarchy and chaos.

The activities of the Food Administration also brought changes within

¹³ First published in the *Buffalo News*, FA 12HA-A3.

¹⁴ "Final Report of the United States Food Administration," 125 (manuscript in Food Administration files in The National Archives).

¹⁵ Herbert Hoover, *Preface to a Report of the United States Food Administration*, 50 (Washington, D. C., April 1920).

¹⁶ *Ibid.*

America. It had been the purpose of the Food Administration to make food saving, which was at first a fad and then a patriotic service, a national habit. It was also desired to change the former tastes and food habits of the people. The educational program had familiarized them with such things as calories and vitamins. There was much more knowledge concerning the preservation of food on farms and in small communities. The food value of salads and particularly of such commodities as lettuce and nuts had been popularized to a great degree. Another interesting feature was the rise of women to positions of executive importance. The many campaigns for conservation made the World-War period the heyday of "Madam Chairman."

How had these things been achieved? What factors had made possible the saving of such a tremendous food surplus? Three may be listed: The educational program of the Food Administration with its constant cry of conservation—its battle cry of feed 'em; transportation, which sometimes made it impossible to obtain certain foods; and prices, practically free of control so far as the retailers were concerned, which reached points that made it impossible for people of small means to buy. Of these three factors it is difficult to state positively and absolutely which was the more effective—the more efficient—in bringing about the desired result, but it does seem safe to say that the Food Administration as educator had had a successful career.

This experience recalls the Nation's present plight. It is again at war. Again it is faced with the problem of supplying allies with food, munitions, and weapons of war; again it must call on all of its resources—all of its experience. Hoover insisted in World War I that the efforts for conservation be based on voluntary action; that whatever rationing was necessary must come as the result of an educational appeal made in a democratic manner. In this day of blitzkrieg the need for speedier action will require an approach different from the long-suffering and patient attitude of the Food Administration of a quarter of a century ago; but many of its pleas, slogans, and admonitions will be applicable today, and its entire experience stands as a guidebook of what to do and what not to do for food conservation in wartime.

FOOD PURCHASES OF THE ALLIES, 1917-1918

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In one of the briefest and least conspicuous paragraphs of his address to the Nation on the day following the resolution of a state of war by the United States against Japan, President Franklin D. Roosevelt declared:

A review this morning leads me to the conclusion that at present we shall not have to curtail the normal articles of food. There is enough food for all of us and enough left over to send to those who are fighting on the same side with us.

These words contain a promise of future social stability and an encouraging assurance of national strength.

The United States and her Allies had a position by no means so comforting in April and May of 1917.¹ Theirs was an outlook of diminishing food supplies. England, France, Italy, and Belgium could count upon only 60 percent of their normal wheat production. In pre-war days they had imported over 350 million bushels, and more than half of it was shipped from Russia and the Balkans. This highly important source of grain was closed to the western Allies, for the Franco-British effort to force the gates to the Black Sea failed, and the Balkans became the prize of the German Empire through the swift and powerful blows of the armies of General Mackensen and General Falkenhayn.

Military misfortunes adversely affected the supplies of other commodities. In years of peace the United Kingdom imported virtually all of her sugar. Over half was supplied from the sugar-beet fields of the Central Powers and 15 percent came from France, Belgium, and the Netherlands. The war cut off nearly 70 percent of the normal source from a nation whose sweet tooth was even more sensitive than that of the United States. The zone of combat over which the German armies swept and in which they entrenched themselves was also the area of cultivation of the sugar beet in France. With fields and factories in enemy hands, French sugar production declined precipitately from a pre-war 752,000 tons to 202,000 tons. Italy too felt a stringency in her sugar supply. The withdrawal of labor from refineries and the conversion of some of the factories to the manufacture of other war materials reduced the domestic production of sugar by 25 percent.

In their hour of need the Allies turned attention to the sources of supply overseas. The wheat crop of the United States was, however, far below normal and appeared to be sufficient only for domestic needs. Similarly the Argentine

¹ This paper was presented at the luncheon of the Agricultural History Society with the American Historical Association at Chicago on December 29, 1941. It is based on extensive research in the records of the United States Food Administration and the Allied Purchasing Commission in the National Archives.

wheat crop was so much below the average that little help could be anticipated from that quarter. Canada, alone, of the wheat areas of the American continents had a satisfactory crop. The reduced supplies of wheat affected adversely the stocks of other commodities available. To the extent that coarse grains were used in place of wheat, the amounts of feeding stuffs were curtailed. Hence meats and dairy products were not so readily and cheaply obtainable. Considerable uncertainty existed concerning the sugar stocks upon which Europe could depend. From the sugar-beet sources of the Western States and from the Hawaiian cane fields less sugar was obtained from the 1916-17 crop than from that of the previous year. The Louisiana output, on the other hand, recovered from the extraordinarily low production of 1915-16. Chief dependence, however, was necessarily placed upon Cuba. Europeans and Americans were not without misgivings about this all-important source, for in 1916 the presidential election in Cuba was so close that the Liberals rose in revolt. United States Marines landed and aided in the restoration of order, but uneasiness was felt until after President Menocal began his second term in May 1917.

The uncertainty arising from these conditions of the food supply stimulated an alarm among the Allies which the entry of the United States into the war could not immediately or completely allay. In a move which reflected a feeling of near panic, they invaded the American grain market, purchased great quantities, virtually cornered that market, and sent the price of wheat to \$3.45 per bushel. Similarly, the Allies engaged in strong competition with American sugar refiners to supply their war needs. This competition led to a realization of the necessity for cooperative effort and unity of policy.

To coordinate the food buying of the Allies numerous agencies were created on both sides of the Atlantic. The west-European Allies reached agreements in 1916 which paved the way for unified buying. A Wheat Executive composed of representatives of Italy, France, and Great Britain met from time to time at London, to direct, by means of the Royal Commission on Wheat Supplies, the buying and transporting of cereals. Similarly an Inter-Allied Meat and Fats Executive was created and a Royal Commission on the Sugar Supply was established. These agencies in turn required organizations to administer the policies upon which agreement was reached. Hence the purchasing program of cereals was carried on by the Wheat Export Company incorporated in New York. The buying of meats, canned goods, dairy products, and nearly all other foods was placed in the hands of the Allied Provisions Export Commission which operated through offices in New York and Washington.

If the Allies organized their purchasing in a somewhat complicated way, the United States organized its selling by an even more involved method. Shortly after the declaration of war Congress authorized the Secretary of the Treasury to make such arrangements as might be necessary to provide financial assistance to the Allies. An American-controlled Allied Purchasing Commission under the chairmanship of Bernard Baruch was organized to coordinate purchases, but the supervision of food buying was delegated by this commission to the Food

Administration. Within that organization a Division of Coordination of Purchase conducted relations with the Allied Provisions Export Commission, and a Grain Corporation and particularly its Wheat Department negotiated with the Wheat Export Company. An International Sugar Committee of five members, two of whom represented the west-European Allies, two the American refiners, and one the Food Administration, was appointed. Into the hands of this committee was entrusted the task of negotiating with representatives of the Cuban producers and of harmonizing the requirements of the United States and the Allies. In 1918 the Sugar Equalization Board was formed. To a large extent it supplanted the International Sugar Committee.

The methods employed in the purchase and sale of cereals, general food commodities, and sugar varied, as may be deduced from the fact that different systems of administrative offices were created to perform or supervise the transactions. The Grain Corporation bought through its field branches all the grain offered and sold it to the millers. As supplies of wheat were accumulated above the needs of domestic flour manufacturers they were transported to seaports. The Wheat Export Company bought this surplus from the Corporation and shipped it abroad. The Milling Division of the Food Administration formulated rules for the export of flour. Sales to the European Allies were conducted by the Grain Corporation, but sales to other Allies and to neutrals were left in the hands of individual millers. The Wheat Export Company in the case of flour as in wheat acted as the buying office of the Allies.

The Division of Coordination of Purchase received periodically statements from the Allied Provisions Export Commission concerning the requirements of the Allies for food other than grain and sugar. The recommendation of the Food Administration usually consisted of advice as to what method of purchase the circumstances seemed to dictate. The Food Administration might more or less arbitrarily allot the filling of the requirements to those firms which were in a position to supply the goods. A second method was that of securing bids by the Food Administration from a number of producers or manufacturers and passing these bids on to the purchaser for approval. Finally, as a third alternative, the purchaser was allowed to go directly into the market and obtain what was needed.

In those instances where the allotment plan was in operation, the Division of Coordination of Purchase, after receiving acceptances from firms to whom were allotted the Allies' requirements, tendered the needed quantities to the buyers for immediate acceptance or rejection. When the buyer, the Allied Provisions Export Commission or the APEC as it was usually known, accepted the tender, that commission made the formal award and issued shipping instructions. To illustrate the method applied where bids were asked, the filling of APEC's requirement of pork and beans for September 1918 may be described. The Division of Coordination of Purchase asked for quotations and received bids from thirteen firms both large and small. From Grand Rapids, Michigan, came the bid of the Thomas Canning Company for 150,000 cases at a price of \$1.21½

a case. On the other hand, a small firm, the Reber Preserving Company, of Eola, Illinois, was free to bid on 1,000 cases for which a price of \$1.37½ was asked. In making the awards APEC appeared to have adopted a standard combining two elements: that of a low price and that of large quantity available. The application of this criterion resulted in the omission of the second lowest bidder. This procedure brought from the Food Administration a letter of remonstrance against the choice and of recommendation of the firm omitted. When the purchaser used the third alternative, namely going directly to the market, considerable caution was sometimes necessary. In August 1918 the Division of Coordination of Purchase was informed by a representative of APEC that a purchase of dried fruits was contemplated but it was proposed "to secure them quietly in New York. We understand this to be your wish when you informed us that you did not expect to be able to allow us these supplies from California." Such were the precautions taken not to disturb unduly the normal market conditions.

The prices which the Allies paid for their foodstuffs depended on many factors. Different policies were developed for different commodities. The price of wheat, upon which the American farmer depended, was guaranteed by Presidential proclamations. This was the basic factor in the price which the Allies were called upon to meet. To this cost were added the interest on the capital of the Grain Corporation, interest and storage charges on wheat, the expenses of the Corporation, and a further 1 percent on sales to cover unforeseen expenses. The price which the Allies paid for sugar was the subject of negotiation between the Royal Commission on the Sugar Supply, the sugar refiners, the agents of the Cuban producers, and the International Sugar Committee. The last named agency, acting for the Food Administration and as an intermediary for all purchasers took over the entire Cuban crop at an agreed price and allocated one-third of that crop to the Allies and two-thirds to the American refiners.

The prices on some commodities were arranged by agreement between the Food Administration and APEC. Periodic conferences were held between representatives of the two agencies and of the great meat packers at which prices for meats were the subject of debate and decision. Frequently these prices were those which the United States Army paid. Thus APEC obtained for the March requirement of corned beef 3 million tins from Libby, McNeil and Libby, but delivery was delayed until the Army price was fixed. A similar arrangement prevailed in respect to canned milk. APEC was advised as to the price of condensed and evaporated milk which the Food Purchase Board recommended. That board composed of representatives of the Army, the Navy, the Marine Corps, the Federal Trade Commission, and the Food Administration held frequent meetings at which data on the supply and prices of foodstuffs were presented and recommendations were made to the service branches. In October 1918 the Food Administration advised APEC to offer the prices on dried fruits which prevailed in the civilian markets. In this case the Army and Navy had not agreed upon a price, and the industry was disturbed by its inability, for this

reason, to move its goods. APEC was urged to begin buying, for prices were lower than those which the Army and Navy would eventually pay.

Occasionally differences of opinion concerning prices arose between the American authorities and the British purchasers. In September and October 1918, the buying of Canadian salmon by APEC was a subject of such difference. On September 6, APEC was given to understand that it must not buy Canadian salmon without the participation of the Food Administration. The prices, said to have been agreed upon, were so much higher than those prevailing in the United States that American packers were much perturbed. On the same day the British representative assured the Food Administration that the prices were to be based on those of American Government purchases. The disagreement was thus reduced to the provisional price to be paid, and on this point the Food Purchase Board and the Food Administration were adamant. APEC was warned that discrimination in favor of the Canadian packers would "result in a bad controversy."

It is an interesting fact that the Allies, the buyers, were less interested in keeping prices down than the United States, the seller. The quantity of foodstuffs made available to their military and civilian population was a matter of more vital concern to the Allies than the debt incurred in buying them. Perhaps their requirement and their imports may be more satisfactorily suggested by comparing purchases of foods with those of other commodities. The Allied requirements of cheese in the summer of 1918 was estimated to be 5,000 tons monthly. The French needed for delivery in June an approximately equal tonnage of tanks, "chars d'assaut" as the French optimistically called them. For the same period of time the Allies hoped to receive from America 1,350 tons of butter monthly. France applied for 1,440 tons of motor cars for delivery in August and September. The butter was valued at about \$1,300,000; the automobiles at slightly less. The British Government paid twice as much for 56 million pounds of frozen beef in July 1918 as for all the airplane engines and parts purchased that month. The requirements of Great Britain, France, and Italy during February and March 1918 for cereals were said to have a value of \$140,500,000, an amount more than equal to their requirements in the same period for gunpowder, picric acid, nitro-cellulose, and all other chemicals. Their requirements for meats and fats in those months were larger than for cereals and were equal to their needs for cotton, cotton and woolen goods, steel, copper, and other metals. From September 1, 1917 to February 1, 1918, the west European Allies purchased \$200,000,000 worth of foodstuffs. This amount for a five-month period was approximately equal to the expenditures, as recorded by the Allied Purchasing Commission, for copper, aluminum, and nickel in the full year, September 1, 1917 to September 1, 1918.

These comparisons of the purchases of food and the buying of other commodities are intended to indicate the relative significance of the American effort to maintain the health and stamina of the Allies. France and Italy required primarily the weapons of war from America; their food needs were decidedly

subordinate. On the other hand, Great Britain called for food above all else. Perhaps the slogan "Food Will Win the War" was too sweeping, but without it, all the chemicals, explosives, and metals in the world would have availed nothing.

The ability of America to supply the Allies depended not only upon the producing capacities of the farms and factories and the conservation by the people but also upon the facilities of transportation. In November 1917, the failure of the Allies to obtain immediate and substantial help from the United States revived the fear which prevailed earlier in the year. Lord Rhondda, the British Food Minister, expressed his apprehension to L. P. Sheldon, one of Hoover's representatives, thus: "I am seriously alarmed by your cable . . ." Unless the Allies could rely on exports considerably in excess of those which were promised, he continued, they would be confronted with a situation "of extreme gravity." The Wheat Executive noted in December 1917, a month of severe blizzards in the United States, that the railroad blockade and port congestion had reduced the tonnage of food exports by over 25 percent below an amount absolutely essential for the Allies to carry on. Later that month the vice president of the Wheat Export Company asserted that unless that minimum amount were supplied "it would mean disaster for the Allied cause." Hoover felt able, on January 1, 1918, to reassure the Allies that the program could be carried out. But the unprecedented severity of the weather which continued in January, the acute coal shortage, and the enormous traffic on the railroads, threatened a paralysis of catastrophic proportions. On January 15, 1918, one of the directors of the Wheat Export Company declared: "This position of affairs is nothing short of disastrous . . ." Ten days later he wrote: "We find it difficult to convey to you the feelings of consternation and alarm at the present situation. It is perfectly clear, from the cable we have received that the slightest failure on our part to ship the quantities mentioned can only have the most disastrous results." To this Hoover replied, "We are . . . doing all we can to expedite movement at the most extreme risks of maintaining tranquility in this country."

As the weeks of February and March 1918 passed, the railroad blockade was broken, the port congestion cleared up, shipping facilities were strengthened, and the crisis disappeared. By the end of March the outlook was bright, but the tide of German military might was once again rolling westward. The fate of the Allied cause was shifted to the military leaders, Foch, Hauge, and Pershing.

The United States did it in 1918 and the United States can do it again!

MARKETING PROBLEMS OF NORTHWESTERN APPLES, 1929-1940

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The beginnings of apple growing in the Northwest go back over a century to the planting of the first seedling in the grounds of Fort Vancouver by Dr. John McLoughlin of the Hudson's Bay Company. The industry grew and flourished during the 1850s and 1860s, was nearly prostrated in the succeeding two decades because of restricted markets, and was revived in the 1890s by the coming of the transcontinental railroads and effective advertising.¹ From 1900 to 1910 it grew rapidly, encouraged by expanding markets, both domestic and foreign, and the resultant high prices. After that its progress was uneven. The industry was affected by the general economic collapse of 1929, and the unsettled conditions which followed called into question the assumptions on which the industry had been based and made attempts at readjustment imperative.

For more than half a century the apple industry of the United States was able to export in increasing quantities to all parts of the world, particularly to Europe.² The few million apple trees on the Continent did not receive the scientific care that characterized the orchards of America, particularly those of the Pacific Northwest, and in consequence European apple crops were small, of poor quality, and entirely inadequate to supply the ever-increasing demand.³ From 1910 to 1914, the fresh-apple export from the United States averaged about 5½ million bushels; Northwestern apples were finding a profitable outlet in England, Germany, Denmark, Sweden, Holland, Belgium, South America, and the Orient. During World War I, embargoes, coupled with a shortage of shipping, interrupted this trade to a large extent. In the following decade, however, apple

¹ For details on the early history, see Joseph W. Ellison, "The Beginnings of the Apple Industry in Oregon," *Agricultural History*, 11:322-343 (October 1937), and "The Cooperative Movement in the Oregon Apple Industry, 1910-1929," *ibid.*, 13:77-96 (April 1939); W. P. Duruz, "Notes on the Early History of Horticulture in Oregon," *ibid.*, 15:84-97 (April 1941). For valuable advice on the present article the author wishes to express his appreciation to Professors W. S. Brown, Henry Hartman, L. R. Breithaupt, and W. P. Duruz.

² During the 5-year period, 1926-1930, 86 percent of the exports went to Europe, 5 percent to Brazil and Argentina, nearly 5 percent to Canada, and about 4 percent to the rest of the world. See Chester C. Hampson, "Trends in the Apple Industry," Washington Agricultural Experiment Station, *Bulletin* 277, p. 40 (Pullman, 1933). The importance of the European market for American apples is indicated by the fact that, on the average, 92.5 percent of the barreled apple exports and 77.2 percent of boxed apple exports were shipped to that continent during 1923-24 to 1926-27. See Edwin Smith, "Marketing Fresh Fruit in Europe," U. S. Department of Agriculture, *Circular* 90, p. 8 (Washington, 1929).

³ See A. C. Edwards, "World Apple Production and Trade," U. S. Bureau of Agricultural Economics, *Report F. S. 57*, p. 3, 7 (Washington, 1932); Smith, "Marketing Fresh Fruit in Europe," p. 8-19.

exports from the United States, and especially from the Pacific Northwest, were again on the increase. The 5-year period from 1923 to 1928 saw the value of fresh-fruit exports from the United States almost double, rising from \$33,000,000 to \$60,000,000. Apple exports, valued at approximately \$27,000,000 in 1927, accounted for the bulk of this trade. The heaviest fresh-apple shipments occurred from 1926 to 1930, when they averaged about 16½ million bushels annually. In 1926-27 they amounted to 4,216,000 barrels and 6,384,000 boxes—or about 20 percent of the commercial crop of the United States.⁴ A large share of these foreign shipments came from Washington, Oregon, Idaho, Montana, and California. In heavy crop years, Washington, Oregon, and California exported about 25 percent of their commercial crop.⁵ Of 11,806,900 boxes of apples shipped from the Pacific coast during the 1928-29 season, 60.2 percent came from Washington and 29.1 percent from Oregon. Oregon exports sometimes reached 70 percent of the commercial crop, with Washington, Virginia, and West Virginia also heavy exporters. Despite the high cost of transportation from the Pacific coast, Northwestern apple growers were finding an ever-growing outlet for their increasing crops in Europe. Many orchards in the Pacific States were planted with the view of marketing a considerable proportion of their crop in foreign countries. The export trade became the safety valve of the Northwestern apple industry.

As late as 1929 Federal marketing experts sounded a note of optimism concerning fruit exports. They maintained that, due to the growing demand for American fruit and the improvement in shipping facilities, there was every reason to believe that apple exports would be greatly increased. However, the horizons of international trade were rapidly being clouded by economic nationalism. Nations were beginning to erect higher trade barriers against foreign goods. The United States had led the way when it increased the tariffs in 1922, and maintained that lead when the Hawley-Smoot Tariff Act of 1930 was passed. So inimical was this tariff to foreign countries that, while the bill was still before Congress, thirty-three nations protested against the contemplated rates. The formal protests of the foreign governments were mild, however, in comparison with the expressions of indignation on the part of the people in the nations principally affected.

The Hawley-Smoot tariff had the effect of a boomerang upon American export trade. A number of countries retaliated with discriminations against American goods and at the same time took measures to become self-sufficient.⁶ European

⁴ For a table showing the increasing volume of United States apple exports from 1889 to 1931, see Edwards, "World Apple Production and Trade," 23. On the value of the fruit trade, see Daniel J. Moriarty, "Foreign Trade in Fresh Fruits," U. S. Bureau of Foreign and Domestic Commerce, *Trade Promotion Series 90*, p. 3 (Washington, 1930).

⁵ Apple production is classed as "total" crop and "commercial" crop. The term "commercial production" indicates that part of the total crop which is sold for consumption as fresh fruit.

⁶ Joseph M. Jones, *Tariff Retaliation: Repercussions of the Hawley-Smoot Bill*, 1-6 (Philadelphia, 1934); A. C. Edwards, "Cost of Exporting Apples," *Better Fruit*, August 1936, p. 3.

duties on apples increased from 12.2 cents a bushel in 1928-29 to 60.2 cents during the first eight months of the 1935-36 season. In some instances the levies were greater than the growers' selling price. Import duties were supplemented by other devices, among which were quotas, license systems, compensating exports, and exchange restrictions that greatly inhibited the entry of American fruit.

Great Britain, America's outstanding purchaser, who usually took one-third of the apple exports, began to adopt a general system of protection by imposing ad valorem duties and by application of the principle of imperial preference. In the Ottawa Trade Pacts, which became effective on August 19, 1932, Britain established a duty of 4s. 6d. per hundredweight on apples, equivalent to about \$1.40 per barrel or 43½ cents per box.⁷ The chief object was to divert foreign trade to Empire channels. In addition, England endeavored to become self-sufficient in fruits. Formerly British fruit growing was the avocation of a few leisured amateurs, but the industry soon began to assume commercial proportions and to adopt large-scale methods. Within a few years, more than 5,000 acres had been set out to fruit. These plantings were in units of at least 50 acres supporting between 5,000 and 8,000 trees—holdings sufficiently large to justify tractors, large graders, power sprays, and other modern equipment. With the help offered by horticultural research stations, English orchardists had undertaken to demonstrate that the British Isles could produce high-grade fruit in large quantities.

This attitude of the British Government and people toward fruit culture had its effect on marketing as well as on production. In 1931 the Government established the "National Mark" system of standardizing, grading, and labeling fruit. Much publicity was given to the "National Mark" by the press, augmented by a vigorous campaign to "buy British" fruit. Canadian products were labeled "Empire Grown," while fruit from the United States was marked "Product of the U. S. A." In England and in the Dominions it was hoped that the import duties would be raised so high that American apples would be replaced by fruit grown at home or in the Dominions. What were the results? In 1930-31, the season prior to the establishment of the duty, the United States exported to England 1,002,000 barrels and 3,846,000 boxes of apples. Trade barriers and the depression combined decreased exports during the 1934-35 season to 427,877 barrels and 2,095,142 boxes, a loss of about 50.6 percent. Even greater reductions were expected when the new English orchards began to bear.⁸

England was not alone in this action; other nations did likewise. Germany, America's second best customer, imposed a duty of \$1.31 a bushel, and took other

⁷ Jones, *Tariff Retaliation*, 231, 237; Report of the Tariff Committee of Washington Boxed Apple Bureau in *Better Fruit*, November 1932, p. 4. See also J. W. Park and R. R. Pailthorp, "Marketing Apples," U. S. Department of Agriculture, *Technical Bulletin* 474, p. 67 (Washington, 1935).

⁸ Smith, "Marketing Fresh Fruit in Europe," 9-11; *American Fruit Grower*, November 1934, p. 5-6, December 1934, p. 7, 13.

measures to reduce the imports of American apples. During the 1934-35 season only 17,357 barrels and 557,339 boxes were shipped to Germany compared with 1930-31 when the shipments were 473,500 and 3,269,000, respectively. By 1936 Germany had practically ceased to import apples from the United States. France imposed a quota and stringent sanitary regulations in addition to a duty and import license tax, which, together, amounted to about 77 cents a bushel. During the 1930-31 season France took 1,069,000 bushels, and in 1931-32, 2,039,500 bushels of American apples, but the adoption of a quota system on July 9, 1932, resulted in the virtual elimination of the French market. The apple duty in Denmark was only about 24 cents a bushel, but exchange restrictions made it impossible to import American fruit. Holland took 392,000 barrels and 2,244,000 boxes of apples during the 1930-31 season, but during 1934-35 bought only 655,593 bushels, a loss of 80 percent. In 1930-31, Argentina, the best customer in South America, purchased 156,900 barrels and 256,977 boxes, a total of 727,677 bushels, and only 13,892 barrels and 61,312 boxes in 1934-35, a decrease of 621,689 bushels. Poland, Finland, Norway, Sweden, Denmark, Italy, Japan, Mexico, and Peru prohibited almost entirely the importation of American apples.⁹

These trade barriers and restrictions resulted in apple exports dropping from 20,316,472 bushels in 1930-31 to 7,821,141 in 1934-35, a loss of 61.5 percent.¹⁰ The loss might have been greater were it not for two mitigating factors: The increasing fruit consciousness of England and Scandinavia, due to intensive "eat more fruit" campaigns; and the frequent poor crops in many European countries. Contributory to this decline, of course, was the world depression and its concomitant, depreciated currencies, which handicapped American fruit exporters because the selling price in certain important foreign countries no longer covered the dollar cost. Meanwhile, competing Canadian apples enjoyed free entry into the extensive British markets.

Naturally, the apple industry protested against the Hawley-Smoot tariff, believing that it was responsible for the curtailing of American exports. In petitions to Congress, the American International Apple Association stated that the apple industry, exporting annually from 19 to 21 percent of its commercial crop, was dependent on foreign markets as outlets for its increasing production and the tariff barriers were paralyzing the industry. The association appealed to Congress to call a halt to economic follies by taking steps to reduce trade restrictions.

Washington and Oregon apple interests also complained of the Hawley-Smoot tariff, which they said led to retaliatory measures by other nations that might

⁹ *Better Fruit*, November 1932, p. 4, August 1936, p. 3-4; *American Fruit Grower*, January 1936, p. 6, 7, 30.

¹⁰ *American Fruit Grower*, January 1936, p. 5-7. The importance of the apple export may be seen in the fact that compared with unmanufactured agricultural commodities for the calendar years 1927-1932, apples ranked third in volume, being exceeded only by wheat and cotton. Compared in volume with all commodities, apples ranked thirteenth in 1932.

ruin the Northwestern apple industry. In 1932, the tariff committee of the Washington Boxed Apple Bureau reported that the American fruit industry "has been expanded largely by governmental aid to a basis of production which greatly exceeds the needs of our own people." Washington and Oregon alone, producing annually from 60 to 70 thousand cars of fruit and enjoying a gross return of from 50 to 75 million dollars, had invested hundreds of millions in orchards, packing houses, cold-storage plants, and other equipment. As a result of partial and complete embargoes, excessive and even prohibitory tariffs, the application of quotas, exchange restrictions, and other barriers such as quarantines and obligatory packing methods, "this great highly specialized industry now lies prostrate—on the verge of bankruptcy and faced with the possibility if not the probability of destruction." The report advocated that the United States call an international economic conference to restore world trade by breaking down tariff walls and their attendant devices.¹¹ The *Northwestern Fruit Grower* pointed out that Pacific-coast production was attuned to the export trade, and if foreign markets were lost, the excess fruit would have to be dumped into the domestic markets, with a disastrous effect on the entire industry. It hoped that a world economic conference would lead to some solution of the tariff problem.¹²

These protests convinced the Roosevelt administration that the time had come to assume leadership in combating economic nationalism and to promote the interests of American agriculture. The Reciprocal Trade Agreement Act of June 12, 1934, authorized the President to negotiate trade agreements until June 12, 1937, and to change the American tariffs by not more than 50 percent. This Act reflected the belief that the United States could better promote its trade by bargaining with each nation separately than by unilateral tariff reduction.¹³

Within a year agreements had been concluded with Cuba, Brazil, Haiti, and Belgium, while negotiations were in progress with Canada, Colombia, Costa Rica, El Salvador, Finland, France, Guatemala, Honduras, Italy, Netherlands, Nicaragua, Spain, Sweden, and Switzerland. While these negotiations were taking place, the growers appealed to the President, the Secretary of State, and to their representatives in Congress to include apples in whatever treaties were signed.

The apple industry benefited greatly by the terms of the fourteen trade agreements negotiated by 1936. In some instances duties were cut in half, and in other cases larger quotas allowed an immediate and direct increase in apple exports. The popularity of the American product abroad was attested by the fact that in all the trade agreements foreign countries offered concessions to American apples. In the Cuban treaty, effective September 3, 1934, apples

¹¹ *Better Fruit*, November 1932, p. 4.

¹² *Northwestern Fruit Grower*, June 1933, p. 3.

¹³ The provisions of the Act are given in David H. Popper, "Progress of American Tariff Bargaining," *Foreign Policy Association, Foreign Policy Reports*, May 22, 1935, p. 59-60.

and pears were placed in the low-duty brackets, at a little above $\frac{1}{2}$ cent a pound. Brazil allowed these fruits to enter free and stabilized the sanitary requirements, a provision of great importance to exporters. Belgium, formerly a good customer, made many concessions in a pact effective May 1, 1935. The new duties amounted to about 85 to 98 cents a barrel and 26 to 30 cents a box or basket. The prominent position of fruit in the agreement with Sweden, effective August 5, 1935, was indicated by the fact that of 22 concession items, 15 were fresh, dried, or canned fruits. The period of low duties, ending on May 1, was lengthened to begin in January instead of February 1. During these months the levy was ten crowns per hundred kilos, or about \$1.60 per barrel and 50 cents a box. For the remainder of the year the duty was doubled. The value of American fruit exported to Sweden was \$2,407,000 in 1934. In December 1935 Netherlands agreed to cut the monopoly fee of 61 cents a box to half that amount from March to June, inclusive, and promised that whenever conditions might justify it, the period would be further extended. The quota was fixed at 675,000 bushels. The Swiss agreement of January 9, 1936, specified an apple and pear quota of not less than 108,657 bushels, subject to a duty of 5 francs or about 37 cents a bushel. Swiss imports exceeded this figure only one year in the past decade. France granted a supplementary quota on apples and pears amounting to 50 percent of the existing quota. The export to France was valued at more than \$3,350,000 in 1935-36. Finland agreed to a 75 percent reduction in the duty on apples during the latter half of December, the heavy trading season, and a 50 percent reduction from January to June 15. Canada waived the minimum specific duty and reduced the ad valorem rate by 25 percent. The apple industry also received concessions in negotiations with Argentina, Russia, Spain, and later with England, still the most important buyer.¹⁴

These agreements apparently benefited farm products, especially apples; agricultural exports to sixteen signatory countries were 40 percent greater in 1937 than in 1935, while shipments to countries without trade agreements declined 4 percent during the same period. Total exports also increased in 1935-36, the aggregate during the season to January 2, amounting to 1,254,109 barrels and 3,773,230 boxes, an increase of about 86 percent over the previous year. Fresh apples constituted from 11 to 17 percent of our commercial export crop. The prospects for American apples in the 1938-39 European market were excellent due partly to trade agreements and improved economic conditions and partly to an abnormally small European crop, especially in England. Despite reduced crops, Germany was prevented from making purchases by exchange difficulties and trade restrictions.¹⁵

¹⁴ *Ibid.*, 60-67; David H. Popper, "The Hull Trade Program," Foreign Policy Association, *Foreign Policy Reports*, Oct. 15, 1936; "Reciprocal Trade: Agreement between the United States of America and Switzerland," U. S. Department of State, *Executive Agreement Series 90* (Washington, 1936); "Reciprocal Trade: Agreement and Supplementary Agreement between the United States of America and Brazil," *ibid.*, No. 82 (Washington, 1936); *Better Fruit*, March 1936, p. 6, 16; *Northwest Fruit Grower*, January 1937, p. 7.

¹⁵ "The Farm Outlook for 1937," U. S. Department of Agriculture, *Miscellaneous Publication* 255, p. 21 (Washington, 1936); *Better Fruit*, June 1938, p. 5.

Because the apple industry was dependent on foreign markets, American growers, especially in the Northwest, were strongly in favor of reciprocal trade policies. The American Pomological Society at its convention in December 1937 unanimously adopted a resolution supporting Secretary Hull's efforts to secure an agreement with England further reducing existing apple duties. The Northwest fruit organizations also actively approved the Secretary's program.¹⁶

When a decline in the domestic market during the depression years was added to the losses abroad, the apple industry was prostrated. For several seasons the net returns to the growers were below production costs. Only a combination of favorable circumstances—an unusually short crop throughout the United States and a superior yield in the Northwest—helped to make the 1936-37 season profitable for Pacific growers. During the years of low prices the Northwestern industry accumulated indebtedness which increased the difficulty of securing adequate financing and frequently ended in neglect of the orchards and production of inferior fruit.¹⁷

Pacific-coast apples have a great natural disadvantage in competition with other fruits and with the apples of other sections of the country. Citrus fruits, grapes, pineapples, and bananas can be grown in only a few localities, but the apple can be raised in practically every State in the Union. Between 25 and 42 States grow apples in sufficient quantities to enable them to ship into other States. Consequently, the Pacific-coast product must compete with home-grown apples and must also overcome the handicap of longer hauls and higher freight rates to the leading markets. Pacific-coast apple growers prosper when the crop in the rest of the country is short; conversely, when the yield in other regions is good, they sustain losses.

The question of freight rates, therefore, loomed large in the 1930s as it had in former decades. The fruit growers of the Pacific Northwest complained bitterly of the high-handed and blind policy of the railroads. The growers insisted that in the 1930s they were still paying rates set as an emergency measure in 1922. Meetings were held with officials of the Northwestern railroads, and appeals were directed to the Interstate Commerce Commission. These appeals maintained that excessive charges were ruining the industry and demanded their reduction to \$1.00 a hundred pounds. The railroads argued that where formerly they had enjoyed a considerable short-haul income, in addition to long-haul revenue, they had recently lost the short haul to trucks and much of the long haul to water carriers. Therefore, their earnings largely depended on the remaining long-haul trade. The growers, complaining that the railroads were penalizing the Pacific coast which furnishes the bulk of their long-haul traffic,

¹⁶ *Better Fruit*, April 1938, p. 8; *Northwest Fruit Grower*, April 1933, p. 3; *American Fruit Grower*, February 1938, p. 22. For a debate on the effects of the trade agreements on American crops, see *Oregon Farmer*, July 21, 1938, p. 1.

¹⁷ For the cost of producing, packing, selling, and transporting Washington apples, see E. L. Overholser, "Production and Marketing Problems of Apples in the States of Washington and New York Contrasted," Washington State Horticultural Association, *Proceedings*, 1936, p. 87-101; and *Better Fruit*, December 1936, p. 7.

threatened to resort to refrigerator-boat service. In 1935 the carriers made a temporary reduction in their charges. When, early in 1938, the rates were to be raised 15 percent, representatives of the Pacific fruit industry testified at sectional hearings of the Interstate Commerce Commission that the proposed increase would not affect Eastern growers, who were using trucks, but would ruin those on the Pacific coast. They protested that such a short-sighted policy on the part of the railroads would force the Northwest fruit industry into the ownership and operation of truck lines, further reducing the income of the carriers. Many argued that intercoastal refrigeration steamers would not only solve the problem of rail rates, but would have a salutary effect upon the high shipping rates which were causing American apples to lose ground steadily in Europe.¹⁸

Another problem confronting the Northwestern growers was the declining domestic demand due partly to reduced consumer purchasing power, but mainly to the intense competition of more aggressively advertised fruits. While the per capital consumption of apples was falling, that of oranges, grapefruit, pineapples, bananas, raisins, and tomato juice was growing rapidly. These products being competitive, increased consumption of the latter had an adverse effect on the apple industry.¹⁹

While the fruit supply of the United States, particularly of oranges, grapefruit, pineapples, and bananas, is continually augmented, apple production is constantly declining.²⁰ During the past twenty-five years millions of trees have been removed. It is estimated that there were 217 million in 1910; 116 million in 1930; and 95 million in 1937. In recent years there have been few new plantings in the Northwest; the number of trees declining about 2 percent annually. It was hoped that this trend would place the apple industry on a sounder basis and correct the situation caused by overplanting prior to the World War.²¹

The tendency of production in the Northwest as well as throughout the country is only slightly downward. The crops of 1928-1931 were only 3 percent smaller than those of 1908-1931, and about 13 percent smaller than those for the high period of 1913-1917. On the Pacific coast the average production increased nearly 300 percent from 1908 to 1931, although the number of trees decreased 28 percent. This was due to the shift from farm to commercial orchards with better locations and improved husbandry, which resulted in an increased yield per tree. For the entire country the average yield per bearing tree grew from 1.2

¹⁸ *Better Fruit*, May 1932, p. 3, September 1932, p. 5-6, February 1933, p. 2, October 1933, p. 8; *Northwest Fruit Grower*, December 1934, p. 3, February 1935, p. 3.

¹⁹ For data on dietary changes in the United States, see I. A. Manville, "Food Values and Vitamins in Pears," in Oregon State Horticultural Society, *Annual Report*, 1933, p. 62. For data on the shifts in per capita consumption of certain fruits, see R. M. Turner, "Consumption Trends in Fruits," Washington State Horticultural Association, *Proceedings*, 1934, p. 124-125.

²⁰ "The Farm Outlook for 1937," p. 19-20.

²¹ *Better Fruit*, June 1936, p. 11; Park and Pailthorp, "Marketing Apples," 5; Hampson, "Trends in the Apple Industry," 23-25; *Northwest Fruit Grower*, November 1934, p. 6, 14.

bushels in the period 1908-1912 to 1.9 bushels during 1928-1931. The Pacific-coast figures for the same periods were 1.6 and 5.0. Despite the reduced number of trees, average production in 1928-1933 was 161 million bushels; for 1935, 167 million; and for 1938 the estimate was 134 million. The combined annual crop of Washington, Oregon, and Idaho during 1936, 1937, and 1938 was computed at about 40 million bushels.²² From 1930 to 1934 the Pacific Coast and Rocky Mountain States produced 54 million bushels of apples a year, or 36 percent of the American crop. Of the commercial crop these eleven States produced 45 percent, although the trend of production was downward, especially in Oregon.²³

In the face of hard times the apple growers, like other agriculturalists, clamored for governmental action. They pointed out that for years the farm population, numbering more than 50 million men, women, and children and furnishing about 45 percent of the Nation's buying power, had been selling its goods on an open market and buying its necessities in a protected market. Moreover, agricultural production had been stimulated by a foreign demand no longer operative, and American farmers were learning that "the law of supply and demand is inexorable." Since in the nature of their occupation farmers could not themselves establish minimum prices or a level of output which would maintain them, they concluded that "it is up to the government to do it."²⁴

The Agricultural Adjustment Act of May 1933 contemplated controlled production and regulated the marketing of apples as well as other agricultural products. The National Industrial Recovery Act, which provided for the setting up of codes for all industrial and commercial groups, affected the handling of fruit crops by shippers and buyers.²⁵

On June 6, 1933 at Spokane, representatives from Washington, Oregon, Idaho, and Montana met with Federal officials to discuss the organization of the entire industry under the AAA and to formulate a code for the shipping and marketing of fruit. After many conferences, the Northwest Fruit Industries, Incorporated, was set up to promote orderly marketing among the growers of the four Northwestern States. The organization was to discourage the production of poor fruit in marginal orchards and to fix a minimum price, generally to be not less than the cost of production and marketing, for each fruit. The new policy, which aimed to coordinate the industry in order to increase the purchasing power of the growers, was acclaimed by most of the leaders.²⁶ The

²² Hampson, "Trends in the Apple Industry," 25-39. According to Overholser, "Production and Marketing Problems of Apples . . .," 93, the approximate average yields per tree in Washington during 1927-31 were 6.1 bushels.

²³ *Better Fruit*, September 1938, p. 10.

²⁴ Okanogan *Independent* quoted in *Northwest Fruit Grower*, May 1934, p. 3.

²⁵ John C. de Wilde, "The AAA and Exports of the South," *Foreign Policy Association, Foreign Policy Reports*, Apr. 24, 1935.

²⁶ See the "Marketing Agreement and License for Handlers of Northwest Fresh Deciduous Tree Fruit . . .," U. S. Agricultural Adjustment Administration, *Marketing Agreement Series—Agreement 6, License Series—License 27* (Washington, 1934), for a detailed outline of the agreement put into effect on Oct. 14, 1933.

plan embraced under the AAA did not differ greatly from devices suggested and tried out in the past. The growers hoped that with the support and legal sanction of the Government, the policy would be protected from the attacks of small minorities.

The subsequent rise in prices and the upward trend in the industry were attributed to the NIRA.²⁷ At a meeting in Washington four hundred growers came out in favor of State and national codes.²⁸ The Act, however, could not survive in the face of the individualism and philosophy of government as interpreted by the Supreme Court of the United States. Many of the code's original objectives, such as the control of prices, auctions, shipments, and distributions, were relegated to the attic, but certain improvements did follow. The daily dissemination of complete and accurate information among shippers through the assistance of the United States Department of Agriculture, for example, helped to stabilize the crop movement.

Many Northwestern growers were convinced, however, that a return of general prosperity would not include the apple industry until it was sufficiently organized to duplicate and counteract the extensive advertising of rival fruits. Effective publicity, they realized, was not a matter for an independent grower or a small cooperative, but needed an alert and cohesive industry. Organization lagged because apple growers, unlike other fruit growers, were scattered in some forty States of the Union. Moreover, the fruit is difficult to identify without a compulsory mark on individual wrappers. Against these the apple has many advantages—wide popular appeal, availability for consumption in many forms, and a colorful healthy appearance.

For more than a quarter of a century the Northwest had conducted its advertising on an industrial and brand basis. Something more extensive was needed to develop the domestic market and reduce surpluses to a minimum. Early in 1935 a number of leading growers, advised by specialists from the Northwest agricultural colleges, the AAA, and the Farm Credit Administration met to discuss the problems confronting the industry. After a careful analysis of the situation at a number of meetings, it was decided to organize the growers and shippers in a joint program to promote an orderly crop movement. When the shippers refused to join, the alternative was to organize strictly a growers' association. The initiative was taken by the four major Northwestern cooperatives: the Hood River Apple Growers' Association, the Yakima Fruit Growers' Association, the Skookum Packers' Association, and the Wenatchee-Okanogan Cooperative Association. These four oldest and strongest cooperatives, through which several thousand growers representing one-third of the Northwest's apple tonnage, had been marketing their fruit somewhat successfully for more than twenty-five years, realized that in order to solve the fundamental problems of the industry a larger organization was needed. By June 1936, the Pacific Northwest Fruits, Inc., was formed, bringing all cooperatives together in one grower-owned and controlled organization with certain

²⁷ *Northwest Fruit Grower*, November 1934, p. 14.

²⁸ *Ibid.*, October 1934, p. 4.

definite aims. The main objective was to coordinate the marketing activities of its members and to advertise and merchandise the respective brands of the cooperatives with a master brand known as "Doc Apple." The charter provided for further activities such as the purchasing and handling of supplies, assistance to members in orchard inspection, packing-house operations, sales, price setting, and the collection of marketing information.²⁹

Only cooperatives owned and controlled by growers averaging at least 750 cars of apples a year and having a satisfactory sales organization could become members of the Pacific Northwest Fruits. Management was vested in a board of directors, who were growers and presidents of their local organizations. Policy was subject to approval by the trustees of the individual cooperatives. The contract signed by the members bound them for five years, with the option of withdrawing after three. For the support of the corporation, 2 cents was deducted on each box of apples marketed.³⁰

In 1936 the Pacific Northwest Fruits launched an aggressive campaign in fifty-six selected cities, using "Doc Apple" as a trade name to personify its four member brands, Big Y, Diamond-A, Skookum, and Wenoka. During National Apple Week over 7,000 merchants in 248 cities throughout the land exhibited 75,000 boxes of "Doc Apple" in a window display contest witnessed by approximately 25 million people. The sound film, "Doc Apple's Family Comes to Town," was judged to be not only a comprehensive picturization of the industry but an outstanding commercial motion picture. It was shown to countless brokers, jobbers, and retailers, and versions were prepared for use in Great Britain and on the Continent.

In 1937 a national committee of advertising associations was formed in the Pacific Northwest, in the Middlewest, and on the Atlantic coast. The regional associations agreed to spend heavily on advertising in newspapers and magazines, on the radio, and by window displays, recipe books, and contests. Stressing the importance of the apple industry in point of tonnage, acreage, and the number of Americans dependent upon it, they appealed to chain and independent grocers to help by inducing people to eat more apples. The National Food Chains, with over 50,000 members, the National Retail American Grocers Association with 132,000, and various mayors, governors, railroads, steamship lines, restaurants, chambers of commerce, and fraternal organizations lent their aid. The movement was christened "A National Apple-A-Day Campaign."³¹

To unify and supplement the regional programs, the National Apple Institute was organized with the support of the American Pomological Society. As an educational body, it began to collect and disseminate data on the vitamins and other useful properties of apples.³² Clip sheets and recipes were sent from the

²⁹ *Better Fruit*, June 1936, p. 12, December 1936, p. 7-8.

³⁰ *Ibid.*, July 1936, p. 3.

³¹ *Ibid.*, October 1937, p. 3, 4.

³² *Ibid.*, October 1936, p. 6. For the beneficial physiological effects of apples, see *ibid.*, August 1937, p. 14, July 1940, p. 7.

Indianapolis headquarters to newspapers, magazines, food companies, and departments of home economics.

The Northwest, particularly Washington, has been a leader in the movement to increase demand by advertising. In 1936, the growers, shippers, and businessmen of Wenatchee and Yakima agreed on an advertising program and soon thereafter 85 percent of the growers and 95 percent of the handlers had agreed to pay an assessment for advertising apples from Washington State. The next year the State legislature passed an act providing an excise of 2 cents per 100 pounds on all apples, except culls, marketed by growers in the State and that a clearance indicating its payment must be shown before the product could be shipped. The State Apple Commission, thereby obtaining a fund of \$250,000, organized an extensive publicity campaign for apples grown anywhere in the United States.³³ Other sections appreciated this courtesy and several States adopted similar laws.³⁴

Such campaigns tended to increase apple consumption and support prices. However, whenever the crop exceeded 70 or 80 million bushels and large quantities of fresh fruit were thrown on the market, glut resulted and prices fell. The 100 million bushel crop of 1937 produced such a situation and it was only partially alleviated by the purchase of millions of bushels by the Federal Government for distribution among the needy.³⁵ In 1939 another huge yield threatened, and in addition bumper crops of competing fruits were predicted. The war in Europe, moreover, destroyed the most important foreign markets. Great Britain placed apples and pears on the luxury list, thus terminating virtually all purchases. Consequently, much of the apple tonnage was forced back on the domestic market, thereby "upsetting the apple cart."³⁶

Leaving their picking and packing crews to harvest a bumper crop, worried growers rushed to Washington at the invitation of the chief of the General Crops Section of the AAA. A plan was devised to reduce the 100 million bushel fresh-apple supply to approximately 80 million bushels, the maximum figure ensuring a profit to the growers. In surplus producing regions, substandard apples were to be turned into cider or fed to hogs. For each bushel up to 10 million so diverted, the Surplus Commodities Corporation would purchase a bushel of superior apples for those on relief. This program was undertaken with the understanding that the growers themselves would work to regulate production and prevent a recurrence of such a large crop.

Within a month producers began to withdraw "C" grade apples to earn diversion credits. County grower committees tabulated these credits and advised the Surplus Commodities Corporation on the maintenance of prices. The

³³ *American Fruit Grower*, January 1939, p. 7, 25, 27.

³⁴ A Michigan circuit court declared an act taxing apples for advertising purposes unconstitutional. See *Pacific Coast Packer*, Dec. 30, 1939.

³⁵ F. L. Ballard, "Signs along the Apple Highway," *Oregon State Horticultural Society, Annual Report*, 1936, p. 53-58.

³⁶ For the importance of the British market, see *American Fruit Grower*, September 1939, p. 11; *Better Fruit*, October 1939, p. 3, December 1939, p. 4.

Corporation set up purchasing offices for the Northwest at Wenatchee, Yakima, Hood River, and Boise. Their prices, worked out from week to week in consultation with local growers, approximated current prices. The plan strengthened the market almost immediately,³⁷ and the growers were unanimous in recommending its continuance.³⁸ Some appealed to Secretary Henry A. Wallace for a new AAA; others asked the Government for subsidies.

With Government aid, the industry had escaped a disastrous season. In addition, neither the apple nor the citrus-fruit crop proved as large as expected. Unlike 1914, the 1939 crop had adequate storage facilities which prevented a forced unloading, regardless of demand.³⁹ Advertising and increased purchasing power brought greater consumption of apples, and some Northwestern growers even began to hope for the future.

Subsidized by the Research Council of the Oregon State System of Higher Education. Published with the approval of the Monographs Publications Committee, Oregon State College. Research Paper No. 52, Department of History.

³⁷ *American Fruit Grower*, November 1939, p. 7; *Pacific Coast Packer*, Oct. 7, Dec. 23, 1939; *Better Fruit*, April 1940, p. 4.

³⁸ By Apr. 27, 1940, when the Surplus Commodities Corporation ceased purchasing, it had bought 1,639 carloads in Washington and 195 in Oregon. It purchased apples in twenty-four States. See *Pacific Coast Packer*, May 4, 1940, p. 2.

³⁹ See *Pacific Coast Packer*, Apr. 27, 1940, p. 1, May 18, 1940, p. 1; *Better Fruit*, July 1940, p. 5, 13.

CLIFFORD V. GREGORY AND HIS WRITINGS

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BIOGRAPHICAL NOTE

Clifford V. Gregory was a constructive participant in practically all the progressive movements in American agriculture during the past thirty years. Although not the originator or sole sponsor of these movements, he was usually their efficient advocate. Through his writings, editorials, and active participation in conventions, conferences, and committees, he influenced Congressional legislation and the objectives of farm organizations.

Gregory (Oct. 20, 1883–Nov. 18, 1941) was born in Mason City, Iowa. In 1908, Iowa State College made him a one-man department of journalism although he had then completed only two years of work toward his bachelor of science degree in animal husbandry. As editor of the extension service bulletins, he wrote the popular edition of *Bulletin 99* on "Pure Seed Investigations." Following his graduation in 1910, he served for a year as instructor in journalism.

In July 1911, Gregory began his twenty-six years' tenure as editor of the *Prairie Farmer*. In announcing his appointment, Burrige D. Butler said: "Professor Gregory comes to us, I believe, better equipped than any man in this country for the great work before him on this paper. Though a young man he has been educated in the school of broad and practical experience. Raised on a farm, he has fought his own way to the front by sheer merit and energy. He is a practical farmer who knows the virtues and the needs of the farmer and of farm life. As a writer he is already too well known to need any introduction from me to farm paper readers. His writings in our leading periodicals and his great work as editor of the bulletins at the Iowa State College have already placed him in the front rank of agricultural writers and educators" (*Prairie Farmer*, June 1, 1911, p. 8).

The editorials in the *Prairie Farmer* from 1911 to 1937 reveal Gregory's stand on public policies affecting agriculture. In 1913, he opposed high tariffs; in 1915, he favored a more aggressive program for the Department of Agriculture and blamed the chief of the Bureau of Animal Industry for the outbreak and spread of the foot-and-mouth disease; in 1930, he deplored the Smoot-Hawley tariff and advocated governmental operation of Muscle Shoals; and in 1931, he seconded Henry A. Wallace's proposal that a portion of various crops be destroyed to reduce the surplus.

Gregory was well known for his interest in cooperative marketing. During and immediately after World War I, dairy farmers near many large cities organized to secure better milk prices. Public concern over high living costs caused many of these associations to be indicted as conspiracies in restraint of trade. Gregory editorially defended the Chicago Milk Producers' Association and is credited with the authorship of the Illinois statute legalizing cooperative marketing. In 1936 he was the agricultural representative on the President's Committee of Inquiry on Cooperative Enterprise in Europe.

In 1940, Gregory expressed doubt that he had missed more than one meeting of the American Farm Bureau Federation. He had attended both the initial gathering at Ithaca, New York, in February 1919, and the final organization meeting in Chicago the following November. He was a frequent speaker before the Federation and wrote a

brief history of its organization and development (*Nation's Agriculture*, June-October 1938).

For some time after the war, Gregory believed that the solution of the farm problem lay in the development of cooperative marketing and similar proposals of the farm organizations. In 1924, he began to campaign for the control of surpluses. In 1927, he published an open letter to President Coolidge strongly protesting the veto of the McNary-Haugen bill. Discussing the question "Is the Federal Farm Board Doing the Job?" in the *Progressive Farmer and Southern Ruralist*, he praised the Board's furtherance of cooperation, deplored its lack of power to deal with the surplus, and pointed out that the tariff was aggravating its difficulties.

In 1933, Gregory was called to Washington to help draft the law creating the Agricultural Adjustment Administration, and was influential in rallying the farm groups behind the new policy. At the 1934 convention of the United States Chamber of Commerce, he alone of the speakers defended the AAA. Breaking a precedent, the *Prairie Farmer* endorsed President Roosevelt for reelection in 1936. By the next year, Gregory was campaigning for the ever-normal granary and a revision of the AAA laws to legalize crop control.

In 1925, Gregory originated the Master Farmer movement as a means of dignifying agriculture, honoring outstandingly successful men in this occupation, and setting forth examples for farm boys and girls. After extended investigation with reference to a carefully drafted score card, twenty-three farmers were awarded gold medals at a banquet attended by notables in Chicago. Other farm journals soon joined the *Prairie Farmer* in designating Master Farmers (*Agricultural History*, April 1936, p. 47-58). Gregory followed the lead of Henry A. Wallace in sponsoring state and national corn-husking contests.

Thousands of farmers have chuckled over Gregory's homespun philosophy as revealed in the "Song of the Lazy Farmer," which first appeared on February 15, 1912, and "John Turnipseed," which evolved out of a series of political articles written in 1922. These columns were featured in several farm periodicals at the time of his death.

Another of Gregory's interests was agricultural history. "Farming Through the Ages," a series of illustrated articles appearing in the *Prairie Farmer* in 1928 and 1929, described agriculture from prehistoric times to the twentieth century. He served as president of the Agricultural History Society in 1935-36.

In 1937, Gregory sold his interest in the *Prairie Farmer* and became associate publisher of *Wallaces' Farmer and Iowa Homestead*. In addition, he disposed of his interest in the Agricultural Broadcasting Company which operated station WLS in Chicago and of which he had been vice president since 1928. At this time Gregory also became associate publisher of the *Wisconsin Agriculturist and Farmer* which had been acquired by *Wallaces' Farmer*. He wrote signed articles for both papers.

Gregory was a director of the Chicago Federal Reserve Bank; a trustee of the Farm Foundation at Chicago; appointee, in 1939, to the Agricultural Advisory Council which was to assist in formulating policies in respect to the problems raised by the European war; and, in 1939 and 1940, chairman of the National Farm Institute at Des Moines. In 1940 also, he received the American Farm Bureau Federation award for distinguished service to agriculture which contained this tribute: "Regarded as one of the soundest and most progressive thinkers in farm circles, his counsel and advice have been sought, and valued highly, by national leaders for many years" (*Nation's Agriculture*, January 1941, p. 13).

Of the eulogies of Gregory, the following is typical: "His marked contributions to the

cause of organized agriculture will always be remembered and appreciated. His simple philosophy and love for farm people won for him a place in their hearts which will never be replaced or relinquished" (*Wallaces' Farmer*, Nov. 29, 1941, p. 6).

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1908

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1910

"How to Tell a Good Cow by Her Looks," *Country Life*, October, p. 683.

1911

"Dairy Cows as an Investment," *Country Life*, Sept. 1, p. 49. "Farming by Special Train," *Outlook*, Apr. 22, p. 913, 922. "Prolonging Life with Ice Cream," *World Today*, May, p. 611-612. "Truth About the Farmer," *Colliers*, July 8, p. 20. "A Word of Greeting [editorial signed, Yours for a better farm life, C. V. Gregory]," *Prairie Farmer*, June 15, p. 12.

1912

"Scientific Farming Brings Big Results at Notre Dame," *Prairie Farmer*, Sept. 1, p. 5-6, 25. "Song of the Lazy Farmer," first appeared in *ibid.*, Feb. 15, and ran continuously until Gregory's death.

1913

"Dependable Markets Will Encourage Stock Production," *Prairie Farmer*, Dec. 1, p. 3-4.

1914

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1915

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1916

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1917

"Farmers are Doing Their Duty in the World War," *Prairie Farmer*, Nov. 3, p. 5, 6, 25. "Illinois Must Raise 20 Per Cent More Hogs Next Year," *ibid.*, Dec. 1, p. 5, 25. "Patriotism Runs High at Prairie Farmers' Picnic," *ibid.*, July 14, p. 5, 15. "Should Illinois Farmers Pay Higher Taxes?" *ibid.*, May 19, p. 5. "Tractor Farming," *ibid.*, Feb. 10, p. 5, 19.

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CHARLES READ AND AMERICAN COLONIAL AGRICULTURE

A REVIEW OF CARL R. WOODWARD'S *Ploughs and Politicks*

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The account of the genesis of Carl Raymond Woodward's *Ploughs and Politicks: Charles Read of New Jersey and His Notes on Agriculture, 1715-1774* (New Brunswick, Rutgers University Press, 1941, xxvi, 468 p.) as given in its foreword is of absorbing interest and reads like a detective story. By fortunate chance, a much-worn copy of the 1681 edition of John Worlidge's *Systema Agriculturae* fell into Dr. Woodward's hands. Marginal entries and notations showed that the book had belonged to a colonial agriculturist who had used it to record his observations and experiments. Various dates placed 1746 and 1777 as the limits covered by the entries. Fortunately, enough clues were furnished in the notes to lead to the identity of the author and the location of his farms. From the evidence presented by Dr. Woodward it seems beyond question that the author of the notes was Charles Read, who, in addition to his other talents, is now revealed as an important colonial agricultural writer. Taken by itself, any one of the reasons advanced for believing that Read was the author of the notes might not be convincing. This is especially true of the testimony about handwriting. But taken together, the evidence clearly establishes Read as the author of these notes on colonial husbandry.

Again, almost by chance it seems, the mystery of Benjamin Franklin's farm was solved. It is now clear that Franklin had no farm, and that Read was the author of the letter previously ascribed to Franklin. Somehow, a letter from Read to Jared Eliot fell into the collection of Franklin letters acquired by Yale University. Because the signature and date were missing, the letter was accepted by Jared Sparks and subsequent editors of Franklin's works as a genuine piece of Frankliniana. This so-called Franklin letter, which described a farm near Burlington, New Jersey, has formed the basis for the belief that Franklin was directly interested in farming, in spite of other evidence to the contrary. Dr. Woodward has brought convincing proof to show that Read, and not Franklin, wrote the letter.

The clearing up of the mystery of the Franklin letter and the identification of the author of some notes on colonial husbandry would be of interest, but of no great importance, if it were not for the notes themselves. The entries cover a wide span of years for which agricultural information is scarce, describe a considerable variety of farming practices, and record the observations of an intelligent and inquisitive individual. Until the publication of this book pre-Revolutionary American agricultural writers were limited to Jared Eliot, and, perhaps, the uncertain author of *American Husbandry*. It should be remembered, too, that until the identity of the author of *American Husbandry* is established, it cannot be used with assurance. Since observers of colonial agriculture are scarce, every addition to their ranks is of importance.

The book is divided into two parts. In the first, Dr. Woodward has presented an amazing amount of biographical information about Read. Separate chapters portray him as customs collector, civil servant, judge, politician, soldier, Indian commissioner, ironmaster, land speculator, and countryman. That he was a man of wide interests can

be seen from this list, and one wonders where he found the time and inclination for agricultural matters. The biographical sketch is ably done; it presents not only the man, but also his times, and provides the background necessary for an appreciation of his agricultural notes.

Read's notes on agriculture make up the bulk of the second part of the book. In arranging them Dr. Woodward had a difficult problem to solve. If he simply reproduced them, he would present an accurate text, but one which would be difficult to use, since they were in no particular order. It was impossible to arrange the notes chronologically, because most of them were undated. The problem has been solved by placing them according to subject matter. Thus, one chapter is devoted to "The Husbandry of Plants"; another contains material relating to "The Husbandry of the Soil," and so on. Each chapter is prefaced with an introduction which explains and gives the background of the notes and calls attention to unusual features. Copious footnotes further aid the reader. The sketches and diagrams with which Read illustrated his notes, ranging from a pattern for a cap to a sketch of how to make a fishing weir, have been reproduced in their appropriate places in the text.

One of the two appendices is a review of Read's life and character, taken from the diary of Aaron Leaming, a contemporary. The other consists of the inventory of Read's personal estate. The bibliography contains an annotated list of the books cited by Read, together with the American libraries which possess these works, and a list of the sources utilized by Dr. Woodward. A useful feature is a glossary of unfamiliar terms used in the notes. The index covers both the introductory material and the notes on agriculture.

So far as the agriculture of eighteenth-century America is concerned, the book furnishes a number of details, jotted down by a man who had no thought of their publication. Consequently, the notes are not a general description of American agriculture. Read recorded some of the things that he, his neighbors, and his correspondents were doing, but his jottings cover only a small portion of the American scene. Nevertheless, the reader is left with the feeling that American agriculture may not have been as bad as it was later pictured by European travelers and American apologists.

American agricultural practices were so heartily condemned by late eighteenth- and early nineteenth-century observers that there has been a tendency to accept their version. These writers had a variety of reasons for their condemnation. If they were Americans, such as Richard Peters and John Beale Bordley, they wished to spur their countrymen to greater efforts through criticism. Foreign writers looked upon American agriculture with prejudiced eyes, and, after all, it was fashionable to cast aspersions upon American customs. Probably the strictures of these gentry have been too easily accepted. While much of American agriculture was undoubtedly exploitative, to overlook the good gives a false picture of the whole.

It is the merit of this book to show how early some Americans were not only trying certain approved English practices but were also criticizing and modifying others to suit the American scene. In addition, they were making observations and improvements of their own. The important thing is the extent to which these improved practices were in use. Here, the notes provide few clues, and it remains for further research to provide an answer. However, this book makes clear that American agriculture in the mid-eighteenth century was not wholly bad.

A VIRGINIA TOBACCO PLANTER OF THE EIGHTEENTH CENTURY

A REVIEW OF LOUIS MORTON'S *Robert Carter of Nomini Hall*

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Biographies of eighteenth-century Virginians usually deal with persons notable in war or politics. Dr. Louis Morton, however, has chosen to emphasize the economic and social side of the planting régime in his *Robert Carter of Nomini Hall: A Virginia Tobacco Planter of the Eighteenth Century* (Williamsburg Restoration Historical Studies, No. 2, Hunter D. Farish, editor, Williamsburg, Va., Colonial Williamsburg, Inc., 1941, xviii, 332 p., illus.).

There is some confusion in the author's estimate of his work. In the *Foreword* (p. x) he states that he has used the career of Robert Carter "as a framework upon which to construct the story of the Virginia aristocracy." To construct the story of the Virginia aristocracy would require a book slightly larger than *Robert Carter*; nor could it well be accomplished by reference to a single planter, however representative he might be. Dr. Morton has employed his general knowledge to underline the significance of his data, but this process does not evoke the synthesis which his words reasonably imply. On the same page he also states that his book "was not written as a biography; it is rather a description of the various economic and social aspects of the plantation system as reflected in the career of one planter." This is a more accurate appraisal of a work rich in illustrative material and provocative of further research.

The book, a doctoral dissertation at Duke University, is largely based on a study of the Carter collection in the library of that institution. Many details of Robert Carter's life were evidently not discoverable. Therefore, the narrative is at times disconnected and fails to arouse the reader's interest in the planter as a person. Only as a manumitter, speculator, manufacturer, etc. are his actions noteworthy. To that extent, the biographical form is not altogether successful.

It is in his treatment of a mass of intimate data on Carter's farming and commercial activities that the author reveals his talent and makes his chief contribution. Robert Carter (1728-1804) was fortunate in having as an ancestor the well known "King" Carter, a person appreciative of the planter's need for new fields and of the pleasant possibility of rising land values. As a result of his grandfather's acquisitiveness Robert Carter found himself master of 70,000 acres scattered from the tidewater Northern Neck to the Shenandoah Valley. He improved his lot by marrying into the wealthy and prominent Tasker family of Baltimore. Besides bringing a lucrative share in the Baltimore Iron Works, the alliance was influential in securing Carter's elevation to the Governor's Council.

Dr. Morton describes the management of Carter's estate in an excellent chapter which, to an agricultural historian, is the core of the book. Since the planter did not command the resources to work his princely holdings, he was forced to turn the greater part over to tenants, appointing an agent in each county to collect rents and hear complaints. The rest he divided into plantations or operating units under overseers and shifted slaves, livestock, and equipment among them as profit dictated. Sometimes, too, he rented a plantation to one of his overseers for a yearly sum or leased out a quarter impoverished by continuous cropping in tobacco. As time went on, he tended to rely

on his holdings in the Valley and in what is now Loudoun County for most of his tobacco, abandoning or curtailing operations in the Tidewater where the fields were becoming exhausted. The prevalence of tenancy on Carter's lands is of considerable interest. If Dr. Morton's findings can be verified by the practice of other great landholders, then the "traditional view" of that practice must be agreeably modified. The author goes on to tell of the planter's agreements with his lessees, in which the acreage of corn, tobacco, wheat, pasture, and woodland was carefully stipulated. To check erosion and soil depletion he specified fallow and pasture; wheat or oats was to follow corn. Rents were payable in tobacco or cash. Contracts with overseers minutely regulated the treatment of domestic animals, slaves, and equipment, while the lessee's rent in this case was computed on a percentage of the assessed value of the arable plus an additional charge for the use of the Negroes of one-tenth of their value.

The above synopsis by no means exhausts Dr. Morton's fruitful observations. He devotes a chapter to Carter's labor supply, free, indentured, and slave. The planter's relations with his factors, methods of crop marketing, and efforts to find new staples are presented in detail. The author documents the impact of the Revolution and of depressed prices upon the tobacco economy. To a student of Virginia agriculture the book is invaluable for its revealing data.

Carter was unusual in that he did not fall into excessive debt to English factors. He showed genuine business ability in the diversification of his crops and in the bewildering variety of his commercial activities. He contributed corn, wheat, and slaves to the Baltimore Iron Works and disposed of his share of the product in ingenious ways, even paying his debts in pig-iron. He supplemented husbandry by manufacture, trade, money lending, and speculation. The Revolutionary War period found textile and grain mills, bakeries, and a salt works in operation on his plantations.

The material on Carter's life at Nomini Hall is interesting, but not comparable in importance to that bearing on his agricultural and commercial enterprises. The same judgment must apply to the descriptions of his religious instability and of his motives for manumitting his slaves. Of Carter's death in Baltimore, Dr. Morton says (p. 273) that it "symbolized the passing of a social order." The author should either explain further or relegate the remark to an essay better suited for its exposition.

In summary, *Robert Carter of Nomini Hall* is a valuable addition to the literature on eighteenth-century Virginia. Despite flaws, the book reflects scholarly imagination and considerable skill in the handling of materials. Its findings give direction to further research on the planters of the Old Dominion.

ANTE-BELLUM ALABAMA AGRICULTURE

A REVIEW OF CHARLES S. DAVIS'S *Cotton Kingdom in Alabama*

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The Southern ante-bellum plantation is gradually emerging from the pink haze so long thrown about it by romantic nostalgia. In the last two decades historical students have devoted increasing attention to the actual day-by-day and year-by-year workings of slavery and the plantation. It is perhaps beside the point to suggest that nostalgia is still one of the forces motivating their efforts. For instance, Ulrich B. Phillips, the outstanding pioneer in this field, did not hesitate to treat his readers to the occasional scent of camellia or the faintly echoing strum of a banjo.

The development of this modern approach has accompanied the increasing efforts to collect and preserve many types of sources dealing with the economic history of the section but not utilized by the older historians: planters' diaries and correspondence, ledger books of country stores, financial and other records of banks and cotton brokers, agricultural magazines, the transactions of farmers' clubs, and the records of various governmental agencies. Among the last named, county tax records, inventories of estates, and manuscript schedules of the Federal census are deserving of especial mention.

A number of writers, among them C. S. Sydnor, R. B. Flanders, and J. C. Robert, have used such sources as these to present works on plantation slavery and plantation management. *The Cotton Kingdom in Alabama*, by Charles S. Davis (Montgomery, Alabama State Department of Archives and History, 1939), is the latest in this line. Its purpose, in the words of the author, is "to describe the principal phases of plantation management, as well as the commercial and financial aspects of cotton planting in Alabama to the outbreak of the Civil War."

Cotton production in Alabama experienced a vigorous expansion after the War of 1812, and by 1850 the cotton plantation area within the State had reached its approximate ante-bellum limits. By the latter date, Alabama ranked first in cotton production among the States. Although the Black Belt came to be the center of cotton production, this area was not considered suitable for the staple until after 1830, when a variety of cotton that was well adapted to limestone soil was introduced.

Cotton dominated all phases of the economic life of Alabama in the ante-bellum period. Within the limits set by natural features, lines of transportation were laid out for the purpose of affording outlets for the planter's staple and inlets for his necessary supplies such as manufactured articles, food, and feed. From the beginning the Tennessee Valley section marketed its cotton and received its supplies either down the rivers at New Orleans or to the northeast through Chattanooga. Most of central and southern Alabama, on the other hand, was tributary to Mobile, the chief port. The railroad grid of 1860 reflected this division of economic spheres.

In terms of individual transactions the dominance of Mobile meant that the planter shipped his crop to a factor or commission merchant in that city, who sold it to representatives of European or New England mills at a commission of 2½ percent. The planter also purchased supplies from his Mobile factor on credit and oftentimes borrowed from him outright, giving what amounted to a mortgage on the crop as security. Nevertheless, the planter was not, as some writers have assumed, bound to deal with one particular factor. He might do business with several commission merchants simul-

taneously, drawing upon one to settle accounts with another, or he might buy supplies from a number of stores, paying the bills by drafts on his principal factor.

The business of the large planters in Alabama tended to concentrate in the seaport towns. Although they bought Negroes in Virginia and mules in Kentucky and Tennessee, plantation supplies were purchased from a factor in Mobile who also sold the cotton. The small inland towns and the country stores dealt mainly with the small planters and farmers.

Davis has provided a detailed picture of the system of plantation management, including the care of the Negroes. The planter experienced his share of troubles with ignorant or inefficient overseers, sick Negroes, crop pests, and uncooperative weather. Each planter had his own rules of thumb for circumventing each of these. While all systems of management tended to conform to one general pattern, yet, individual variations were striking. The same could be said of the individuals making up plantation society.

No attempt has been made to deal with the small farmer or nonslaveholder. This would have been a difficult task, to say the least, for the small farmer left comparatively few records, or his records were of such a fragmentary nature that they have generally been lost. Nevertheless, Davis has given some idea of the place of the small farmers in the economic system. They were by no means all poor white Slatterys. They appear to have been hard-working, self-respecting individuals; they may not have made as much cash as their planter neighbors in boom times, but it seems to have been their corn and pork that often carried the large planters through times of adversity. The strongholds of the small farmer were in the hill counties, but even in typical Black-Belt counties there was a sizable minority of nonslaveholding small farmers.

The familiar theme of soil exhaustion also is brought out in this story. By 1840 yields per acre and prices of land were experiencing gradual declines in some sections, and the countryside was taking on the same worn-out appearance as that of the older States. The tendency of the planters to sacrifice all other interests to cotton planting and to rely mostly upon the virgin productivity of the land, without attempting to restore fertility, resulted in the destruction of resources. Agricultural clubs were formed to check this tendency, but the results were negligible. On the other hand there were a few outstanding planters who practiced rotations, prevented soil erosion by means of ditches, or cut down their cotton acreages in favor of corn, wheat, rye, barley, peas, potatoes, and other crops.

The author's conclusion is: "there is no doubt that certain Alabama producers made considerable money in the production of cotton. Profits, however, depended upon the cultivation of rich lands as well as the efficient management of both capital and labor. Even the planters themselves were in agreement that a large part of the food supply had to be raised at home in order to preserve the slender margin of profit which inevitably resulted because of certain fixed charges which had to be met. Nevertheless, cotton continued to receive the major emphasis of all the plantation activities, and from the markets in Mobile and New Orleans came a considerable portion of the food supply. The plantation system also hastened the exhaustion of soil in most of the State's best planting regions . . ." (p. 189). The downfall of slavery would have come eventually for economic reasons had not the Civil War intervened.

The book is illustrated with a good series of maps, but in the opinion of this reviewer the set on pages 192-196 might have been more useful if the title and legends had been different. Perhaps the title should read "Distribution of Slaves in Alabama, 1820-1860," rather than "Relation of Distribution of Slaves to Soil Areas in Alabama, 1820-1860," as no soil areas are shown on the maps. In spite of this minor flaw, the work is a worthy addition to the growing literature on the plantation.

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